

TITLE 17

DIVISION 1. STATE DEPARTMENT OF HEALTH SERVICES

CHAPTER 5. SANITATION (ENVIRONMENTAL)

GROUP 4. DRINKING WATER SUPPLIES

ARTICLE 1. GENERAL

§7583. Definitions.

In addition to the definitions in Section 4010.1¹ of the Health and Safety Code, the following terms are defined for the purpose of this Chapter:

(a) “Approved Water Supply” is a water supply whose potability is regulated by a State or local health agency.

(b) “Auxiliary Water Supply” is any water supply other than that received from a public water system.

(c) “Air-gap Separation (AG)” is a physical break between the supply line and a receiving vessel.

(d) “AWWA Standard” is an official standard developed and approved by the American Water Works Association (AWWA).

(e) “Cross-Connection” is an unprotected actual or potential connection between a potable water system used to supply water for drinking purposes and any source or system containing unapproved water or a substance that is not or cannot be approved as safe, wholesome, and potable. By-pass arrangements, jumper connections, removable sections, swivel or changeover devices, or other devices through which backflow could occur, shall be considered to be cross-connections.

(f) “Double Check Valve Assembly (DC)” is an assembly of at least two independently acting check valves including tightly closing shut-off valves on each side of the check valve assembly and test cocks available for testing the watertightness of each check valve.

(g) “Health Agency” means the California Department of Health Services, or the local health officer with respect to a small water system.

(h) “Local Health Agency” means the county or city health authority.

(i) “Reclaimed Water” is a wastewater which as a result of treatment is suitable for uses other than potable use.

(j) “Reduced Pressure Principle Backflow Prevention Device (RP)” is a backflow preventer incorporating not less than two check valves, an automatically operated differential relief valve

¹ Section 4010.1 has been recodified to 116275. OAL has been notified of this by request for a “change without regulatory effect”.

located between the two check valves, a tightly closing shut-off valve on each side of the check valve assembly, and equipped with necessary test cocks for testing.

(k) “User Connection” is the point of connection of a user's piping to the water supplier's facilities.

(l) “Water Supplier” is the person who owns or operates the public water system.

(m) “Water User” is any person obtaining water from a public water supply.

§7584. Responsibility and Scope of Program.

The water supplier shall protect the public water supply from contamination by implementation of a cross-connection control program. The program, or any portion thereof, may be implemented directly by the water supplier or by means of a contract with the local health agency, or with another agency approved by the health agency. The water supplier's cross-connection control program shall for the purpose of addressing the requirements of Sections 7585 through 7605 include, but not be limited to, the following elements:

(a) The adoption of operating rules or ordinances to implement the cross-connection program.

(b) The conducting of surveys to identify water user premises where cross-connections are likely to occur,

(c) The provisions of backflow protection by the water user at the user's connection or within the user's premises or both,

(d) The provision of at least one person trained in cross-connection control to carry out the cross-connection program,

(e) The establishment of a procedure or system for testing backflow preventers, and

(f) The maintenance of records of locations, tests, and repairs of backflow preventers.

§7585. Evaluation of Hazard.

The water supplier shall evaluate the degree of potential health hazard to the public water supply which may be created as a result of conditions existing on a user's premises. The water supplier, however, shall not be responsible for abatement of cross-connections which may exist within a user's premises. As a minimum, the evaluation should consider: the existence of cross-connections, the nature of materials handled on the property, the probability of a backflow occurring, the degree of piping system complexity and the potential for piping system modification. Special consideration shall be given to the premises of the following types of water users:

(a) Premises where substances harmful to health are handled under pressure in a manner which could permit their entry into the public water system. This includes chemical or biological process waters and water from public water supplies which have deteriorated in sanitary quality.

(b) Premises having an auxiliary water supply, unless the auxiliary supply is accepted as an additional source by the water supplier and is approved by the health agency.

(c) Premises that have internal cross-connections that are not abated to the satisfaction of the water supplier or the health agency.

(d) Premises where cross-connections are likely to occur and entry is restricted so that cross-connection inspections cannot be made with sufficient frequency or at sufficiently short notice to assure that cross-connections do not exist.

(e) Premises having a repeated history of cross-connections being established or re-established.

§7586. User Supervisor.

The health agency and water supplier may, at their discretion, require an industrial water user to designate a user supervisor when the water user's premises has a multipiping system that convey various types of fluids, some of which may be hazardous and where changes in the piping system are frequently made. The user supervisor shall be responsible for the avoidance of cross-connections during the installation, operation and maintenance of the water user's pipelines and equipment.

ARTICLE 2. PROTECTION OF WATER SYSTEM

§7601. Approval of Backflow Preventers.

Backflow preventers required by this Chapter shall have passed laboratory and field evaluation tests performed by a recognized testing organization which has demonstrated their competency to perform such tests to the Department.

§7602. Construction of Backflow Preventers.

(a) Air-gap Separation. An Air-gap separation (AG) shall be at least double the diameter of the supply pipe, measured vertically from the flood rim of the receiving vessel to the supply pipe; however, in no case shall this separation be less than one inch.

(b) Double Check Valve Assembly. A required double check valve assembly (DC) shall, as a minimum, conform to the AWWA Standard C506-78 (R83) adopted on January 28, 1978 for Double Check Valve Type Backflow Preventive Devices which is herein incorporated by reference.

(c) Reduced Pressure Principle Backflow Prevention Device. A required reduced pressure principle backflow prevention device (RP) shall, as a minimum, conform to the AWWA Standard C506-78 (R83) adopted on January 28, 1978 for Reduced Pressure Principle Type Backflow Prevention Devices which is herein incorporated by reference.

§7603. Location of Backflow Preventers.

(a) Air-gap Separation. An air-gap separation shall be located as close as practical to the user's connection and all piping between the user's connection and the receiving tank shall be entirely visible unless otherwise approved in writing by the water supplier and the health agency.

(b) Double Check Valve Assembly. A double check valve assembly shall be located as close as practical to the user's connection and shall be installed above grade, if possible, and in a manner where it is readily accessible for testing and maintenance.

(c) Reduced Pressure Principle Backflow Prevention Device. A reduced pressure principle backflow prevention device shall be located as close as practical to the user's connection and shall be installed a minimum of twelve inches (12") above grade and not more than thirty-six inches (36") above grade measured from the bottom of the device and with a minimum of twelve inches (12") side clearance.

§7604. Type of Protection Required.

The type of protection that shall be provided to prevent backflow into the public water supply shall be commensurate with the degree of hazard that exists on the consumer's premises. The type of protective device that may be required (listed in an increasing level of protection) includes: Double Check Valve Assembly-(DC), Reduced Pressure Principle Backflow Prevention Device-(RP), and an Air-gap Separation-(AG). The water user may choose a higher level of protection than required by the water supplier. The minimum types of backflow protection required to protect the public water supply, at the water user's connection to premises with various degrees of hazard are given in Table 1. Situations which are not covered in Table 1 shall be evaluated on a case-by-case basis and the appropriate backflow protection shall be determined by the water supplier or health agency.

TABLE 1
TYPE OF BACKFLOW PROTECTION REQUIRED

<i>Degree of Hazard</i>	<i>Minimum Type of Backflow Prevention</i>
(a) Sewage and Hazardous Substances	
(1) Premises where there are waste water pumping and/or treatment plants and there is no interconnection with the potable water system. This does not include a single-family residence that has a sewage lift pump. A RP may be provided in lieu of an AG if approved by the health agency and water supplier.	AG
(2) Premises where hazardous substances are handled in any manner in which the substances may enter the potable water system. This does not include a single-family residence that has a sewage lift pump. A RP may be provided in lieu of an AG if approved by the health agency and water supplier.	AG
(3) Premises where there are irrigation systems into which fertilizers, herbicides, or pesticides are, or can be, injected.	RP
(b) Auxiliary Water Supplies	
(1) Premises where there is an unapproved auxiliary water supply which is interconnected with the public water system. A RP or DC may be provided in lieu of an AG if approved by	AG

the health agency and water supplier.

(2) Premises where there is an unapproved auxiliary water supply and there are no interconnections with the public water system. A DC may be provided in lieu of a RP if approved by the health agency and water supplier.

RP

(c) Recycled Water

(1) Premises where the public water system is used to supplement the recycled water supply.

AG

(2) Premises where recycled water is used, other than as allowed in paragraph (3), and there is no interconnection with the potable water system.

RP

(3) Residences using recycled water for landscape irrigation as part of an approved dual plumbed use area established pursuant to sections 60313 through 60316 unless the recycled water supplier obtains approval of the local public water supplier, or the Department if the water supplier is also the supplier of the recycled water, to utilize an alternative backflow protection plan that includes an annual inspection and annual shutdown test of the recycled water and potable water systems pursuant to subsection 60316(a).

DC

(d) Fire Protection Systems

(1) Premises where the fire system is directly supplied from the public water system and there is an unapproved auxiliary water supply on or to the premises (not interconnected).

DC

(2) Premises where the fire system is supplied from the public water system and interconnected with an unapproved auxiliary water supply. A RP may be provided in lieu of an AG if approved by the health agency and water supplier.

AG

(3) Premises where the fire system is supplied from the public water system and where either elevated storage tanks or fire pumps which take suction from private reservoirs or tanks are used.

DC

(4) Buildings where the fire system is supplied from the public water system and where recycled water is used in a separate piping system within the same building.

DC

(e) Dockside Watering Points and Marine Facilities

(1) Pier hydrants for supplying water to vessels for any purpose.

RP

(2) Premises where there are marine facilities.

RP

(f) Premises where entry is restricted so that inspections for cross-connections cannot be made with sufficient frequency or at sufficiently short notice to assure that they do not exist.

RP

(g) Premises where there is a repeated history of cross-connections being established or re-established.

RP

§7605. Testing and Maintenance of Backflow Preventers.

(a) The water supplier shall assure that adequate maintenance and periodic testing are provided by the water user to ensure their proper operation.

(b) Backflow preventers shall be tested by persons who have demonstrated their competency in testing of these devices to the water supplier or health agency.

(c) Backflow preventers shall be tested at least annually or more frequently if determined to be necessary by the health agency or water supplier. When devices are found to be defective, they shall be repaired or replaced in accordance with the provisions of this Chapter.

(d) Backflow preventers shall be tested immediately after they are installed, relocated or repaired and not placed in service unless they are functioning as required.

(e) The water supplier shall notify the water user when testing of backflow preventers is needed. The notice shall contain the date when the test must be completed.

(f) Reports of testing and maintenance shall be maintained by the water supplier for a minimum of three years.

ARTICLE 5. DOMESTIC WATER SUPPLY RESERVOIRS

§7625. Definitions.

(a) “Domestic water supply reservoir” as used herein means a reservoir used to impound or store water intended solely or primarily for domestic purposes.

(b) “Distribution reservoir” as used herein means a reservoir, directly connected with the distribution system of the domestic water supply project, used primarily to care for fluctuations in demand which occur over short periods of from several hours to several days, or as local storage in case of emergency such as a break in a main supply line or failure of pumping plant.

§7626. Application for Permit.

(a) Recreational use on and around a domestic water supply reservoir is prohibited unless specifically authorized in a water supply permit.

(b) Within 30 calendar days of receipt of an application for a permit or petition for permit modification pursuant to Section 4011² or 4019³, Health and Safety Code, the Department shall inform the applicant in writing that it is either complete and accepted for filing or that it is

² Section 4011 has been recodified to 116525. OAL has been notified of this by request for a “change without regulatory effect”.

³ Section 4019 has been recodified to 116550. OAL has been notified of this by request for a “change without regulatory effect”.

deficient and what specific information or documentation is required to complete the application. An application is considered complete if it is in compliance with the requirements of Section 4012⁴, Health and Safety Code. For proposed water system improvements, new water systems or a “project” as defined in Section 15378, Title 14, California Administrative Code where environmental documentation is required, a copy of such documentation shall be included in the application.

(c) Within 90 calendar days from the date of filing of a completed application, the Department shall inform the applicant in writing of its decision regarding an application.

(d) The Department's time periods for processing an application from the receipt of the initial application to the final decision regarding issuance or denial of a water permit based on the Department's actual performance during the two years preceding the proposal of this section, were as follows:

- (1) The median time was--7.5 months
- (2) The minimum time was--1.5 months
- (3) The maximum time was--85.5 months

§7627. Data to Accompany Application.

(a) The application for a permit to allow recreational use shall be accompanied by detailed information, including but not limited to, the following:

(1) Maps showing the reservoir area, including location of water works facilities, area to be open for recreational use and location of sanitary facilities to be provided for the public.

(2) Data on the size of the reservoir, length of time of water storage in the reservoir, topography of the reservoir site, prevalence of wind-induced currents and other factors that may affect the quality of the stored water and movement of possible contaminants to the water intake.

(3) Data on the size of the protective zone to be provided between the area of recreational use and point of water withdrawal for the water supply.

(4) A statement describing the type of recreational use proposed and the maximum number of persons, cars, vehicles and boats allowed in the area.

(5) A description of the water supplier's program, personnel and financing to control the recreational use, including maintenance and operations of recreational and sanitary facilities, and supervision of the people permitted in the area.

§7629. Reservoirs for Which Permits May Be Granted.

When the department finds that the intended recreational use will not render the water supply as delivered to the consumers impure, unwholesome or unpotable, permit for such use will be issued. Subject to the department findings the following types of domestic water supply reservoirs may be used for recreational purposes:

(1) Reservoirs from which water is continuously and reliably treated by filtration and chlorination; provided that for smaller water systems, under special circumstances satisfactory to the State Department of Public Health, approved dual chlorination may be acceptable;

⁴ Section 4012 has been recodified to 116530. OAL has been notified of this by request for a “change without regulatory effect”.

(2) Reservoirs from which water is withdrawn by open channels or other conduits and subsequently stored again in reservoirs falling in the category of Section 7629(1) before reaching a distribution reservoir, or before entering the distribution system or a consumer's premises.

TITLE 22

DIVISION 4. ENVIRONMENTAL HEALTH

CHAPTER 1. INTRODUCTION

ARTICLE 1. DEFINITIONS

§60001. Department.

Whenever the term “department” is used in this division, it means the State Department of Health Services, unless otherwise specified.

§60003. Director.

Whenever the term “director” is used in this division, it means the Director, State Department of Health Services, unless otherwise specified.

CHAPTER 3. WATER RECYCLING CRITERIA

ARTICLE 1. DEFINITIONS

§60301.100. Approved Laboratory.

“Approved laboratory” means a laboratory that has been certified by the Department to perform microbiological analyses pursuant to section 116390, Health and Safety Code.

§60301.160. Coagulated Wastewater.

“Coagulated wastewater” means oxidized wastewater in which colloidal and finely divided suspended matter have been destabilized and agglomerated upstream from a filter by the addition of suitable floc-forming chemicals.

§60301.170. Conventional Treatment.

“Conventional treatment” means a treatment chain that utilizes a sedimentation unit process between the coagulation and filtration processes and produces an effluent that meets the definition for disinfected tertiary recycled water.

§60301.200. Direct Beneficial Use.

“Direct beneficial use” means the use of recycled water that has been transported from the point of treatment or production to the point of use without an intervening discharge to waters of the State.

§60301.220. Disinfected Secondary-2.2 Recycled Water.

“Disinfected secondary-2.2 recycled water” means recycled water that has been oxidized and disinfected so that the median concentration of total coliform bacteria in the disinfected effluent does not exceed a most probable number (MPN) of 2.2 per 100 milliliters utilizing the bacteriological results of the last seven days for which analyses have been completed, and the

number of total coliform bacteria does not exceed an MPN of 23 per 100 milliliters in more than one sample in any 30 day period.

§60301.225. Disinfected Secondary-23 Recycled Water.

“Disinfected secondary-23 recycled water” means recycled water that has been oxidized and disinfected so that the median concentration of total coliform bacteria in the disinfected effluent does not exceed a most probable number (MPN) of 23 per 100 milliliters utilizing the bacteriological results of the last seven days for which analyses have been completed, and the number of total coliform bacteria does not exceed an MPN of 240 per 100 milliliters in more than one sample in any 30 day period.

§60301.230. Disinfected Tertiary Recycled Water.

“Disinfected tertiary recycled water” means a filtered and subsequently disinfected wastewater that meets the following criteria:

(a) The filtered wastewater has been disinfected by either:

(1) A chlorine disinfection process following filtration that provides a CT (the product of total chlorine residual and modal contact time measured at the same point) value of not less than 450 milligram-minutes per liter at all times with a modal contact time of at least 90 minutes, based on peak dry weather design flow; or

(2) A disinfection process that, when combined with the filtration process, has been demonstrated to inactivate and/or remove 99.999 percent of the plaque-forming units of F-specific bacteriophage MS2, or polio virus in the wastewater. A virus that is at least as resistant to disinfection as polio virus may be used for purposes of the demonstration.

(b) The median concentration of total coliform bacteria measured in the disinfected effluent does not exceed an MPN of 2.2 per 100 milliliters utilizing the bacteriological results of the last seven days for which analyses have been completed and the number of total coliform bacteria does not exceed an MPN of 23 per 100 milliliters in more than one sample in any 30 day period. No sample shall exceed an MPN of 240 total coliform bacteria per 100 milliliters.

§60301.240. Drift.

“Drift” means the water that escapes to the atmosphere as water droplets from a cooling system.

§60301.245. Drift Eliminator.

“Drift eliminator” means a feature of a cooling system that reduces to a minimum the generation of drift from the system.

§60301.250. Dual Plumbed System.

“Dual plumbed system” or “dual plumbed” means a system that utilizes separate piping systems for recycled water and potable water within a facility and where the recycled water is used for either of the following purposes:

(a) To serve plumbing outlets (excluding fire suppression systems) within a building or

(b) Outdoor landscape irrigation at individual residences.

§60301.300. F-Specific Bacteriophage MS-2.

“F-specific bacteriophage MS-2” means a strain of a specific type of virus that infects coliform bacteria that is traceable to the American Type Culture Collection (ATCC 15597B1) and is grown on lawns of *E. coli* (ATCC 15597).

§60301.310. Facility.

“Facility” means any type of building or structure, or a defined area of specific use that receives water for domestic use from a public water system as defined in section 116275 of the Health and Safety Code.

§60301.320. Filtered Wastewater.

“Filtered wastewater” means an oxidized wastewater that meets the criteria in subsection (a) or (b):

(a) Has been coagulated and passed through natural undisturbed soils or a bed of filter media pursuant to the following:

(1) At a rate that does not exceed 5 gallons per minute per square foot of surface area in mono, dual or mixed media gravity, upflow or pressure filtration systems, or does not exceed 2 gallons per minute per square foot of surface area in traveling bridge automatic backwash filters; and

(2) So that the turbidity of the filtered wastewater does not exceed any of the following:

(A) An average of 2 NTU within a 24-hour period;

(B) 5 NTU more than 5 percent of the time within a 24-hour period; and

(C) 10 NTU at any time.

(b) Has been passed through a microfiltration, ultrafiltration, nanofiltration, or reverse osmosis membrane so that the turbidity of the filtered wastewater does not exceed any of the following:

(1) 0.2 NTU more than 5 percent of the time within a 24-hour period; and

(2) 0.5 NTU at any time.

§60301.400. Hose Bibb.

“Hose bibb” means a faucet or similar device to which a common garden hose can be readily attached.

§60301.550. Landscape Impoundment.

“Landscape impoundment” means an impoundment in which recycled water is stored or used for aesthetic enjoyment or landscape irrigation, or which otherwise serves a similar function and is not intended to include public contact.

§60301.600. Modal Contact Time.

“Modal contact time” means the amount of time elapsed between the time that a tracer, such as salt or dye, is injected into the influent at the entrance to a chamber and the time that the highest concentration of the tracer is observed in the effluent from the chamber.

§60301.620. Nonrestricted Recreational Impoundment.

“Nonrestricted recreational impoundment” means an impoundment of recycled water, in which no limitations are imposed on body-contact water recreational activities.

§60301.630. NTU.

“NTU” (Nephelometric turbidity unit) means a measurement of turbidity as determined by the ratio of the intensity of light scattered by the sample to the intensity of incident light as measured by method 2130 B. in Standard Methods for the Examination of Water and Wastewater, 20th ed.; Eaton, A. D., Clesceri, L. S., and Greenberg, A. E., Eds; American Public Health Association: Washington, DC, 1995; p. 2-8.

§60301.650. Oxidized Wastewater.

“Oxidized wastewater” means wastewater in which the organic matter has been stabilized, is nonputrescible, and contains dissolved oxygen.

§60301.660. Peak Dry Weather Design Flow.

“Peak Dry Weather Design Flow” means the arithmetic mean of the maximum peak flow rates sustained over some period of time (for example three hours) during the maximum 24-hour dry weather period. Dry weather period is defined as periods of little or no rainfall.

§60301.700. Recycled Water Agency.

“Recycled water agency” means the public water system, or a publicly or privately owned or operated recycled water system, that delivers or proposes to deliver recycled water to a facility.

§60301.710. Recycling Plant.

“Recycling plant” means an arrangement of devices, structures, equipment, processes and controls which produce recycled water.

§60301.740. Regulatory Agency.

“Regulatory agency” means the California Regional Water Quality Control Board(s) that have jurisdiction over the recycling plant and use areas.

§60301.750. Restricted Access Golf Course.

“Restricted access golf course” means a golf course where public access is controlled so that areas irrigated with recycled water cannot be used as if they were part of a park, playground, or school yard and where irrigation is conducted only in areas and during periods when the golf course is not being used by golfers.

§60301.760. Restricted Recreational Impoundment.

“Restricted recreational impoundment” means an impoundment of recycled water in which recreation is limited to fishing, boating, and other non-body-contact water recreational activities.

§60301.800. Spray Irrigation.

“Spray irrigation” means the application of recycled water to crops to maintain vegetation or support growth of vegetation by applying it from sprinklers.

§60301.830. Standby Unit Process.

“Standby unit process” means an alternate unit process or an equivalent alternative process which is maintained in operable condition and which is capable of providing comparable treatment of the actual flow through the unit for which it is a substitute.

§60301.900. Undisinfected Secondary Recycled Water.

“Undisinfected secondary recycled water” means oxidized wastewater.

§60301.920. Use Area.

“Use area” means an area of recycled water use with defined boundaries. A use area may contain one or more facilities.

ARTICLE 2. SOURCES OF RECYCLED WATER

§60302. Source Specifications.

The requirements in this chapter shall only apply to recycled water from sources that contain domestic waste, in whole or in part.

ARTICLE 3. USES OF RECYCLED WATER.

§60303. Exceptions.

The requirements set forth in this chapter shall not apply to the use of recycled water onsite at a water recycling plant, or wastewater treatment plant, provided access by the public to the area of onsite recycled water use is restricted.

§60304. Use of Recycled Water for Irrigation.

(a) Recycled water used for the surface irrigation of the following shall be a disinfected tertiary recycled water, except that for filtration pursuant to Section 60301.320(a) coagulation need not be used as part of the treatment process provided that the filter effluent turbidity does not exceed 2 NTU, the turbidity of the influent to the filters is continuously measured, the influent turbidity does not exceed 5 NTU for more than 15 minutes and never exceeds 10 NTU, and that there is the capability to automatically activate chemical addition or divert the wastewater should the filter influent turbidity exceed 5 NTU for more than 15 minutes:

- (1) Food crops, including all edible root crops, where the recycled water comes into contact with the edible portion of the crop,
- (2) Parks and playgrounds,
- (3) School yards,
- (4) Residential landscaping,
- (5) Unrestricted access golf courses, and
- (6) Any other irrigation use not specified in this section and not prohibited by other sections of the California Code of Regulations.

(b) Recycled water used for the surface irrigation of food crops where the edible portion is produced above ground and not contacted by the recycled water shall be at least disinfected secondary-2.2 recycled water. Recycled water used for the surface irrigation of the following shall be at least disinfected secondary-23 recycled water:

(c) Recycled water used for the surface irrigation of the following shall be at least disinfected secondary-23 recycled water:

- (1) Cemeteries,
- (2) Freeway landscaping,
- (3) Restricted access golf courses,
- (4) Ornamental nursery stock and sod farms where access by the general public is not restricted,
- (5) Pasture for animals producing milk for human consumption, and
- (6) Any nonedible vegetation where access is controlled so that the irrigated area cannot be used as if it were part of a park, playground or school yard

(d) Recycled wastewater used for the surface irrigation of the following shall be at least undisinfected secondary recycled water:

- (1) Orchards where the recycled water does not come into contact with the edible portion of the crop,
- (2) Vineyards where the recycled water does not come into contact with the edible portion of the crop,
- (3) Non food-bearing trees (Christmas tree farms are included in this category provided no irrigation with recycled water occurs for a period of 14 days prior to harvesting or allowing access by the general public),
- (4) Fodder and fiber crops and pasture for animals not producing milk for human consumption,
- (5) Seed crops not eaten by humans,
- (6) Food crops that must undergo commercial pathogen-destroying processing before being consumed by humans, and
- (7) Ornamental nursery stock and sod farms provided no irrigation with recycled water occurs for a period of 14 days prior to harvesting, retail sale, or allowing access by the general public.

(e) No recycled water used for irrigation, or soil that has been irrigated with recycled water, shall come into contact with the edible portion of food crops eaten raw by humans unless the recycled water complies with subsection (a).

§60305. Use of Recycled Water For Impoundments.

(a) Except as provided in subsection (b), recycled water used as a source of water supply for nonrestricted recreational impoundments shall be disinfected tertiary recycled water that has been subjected to conventional treatment.

(b) Disinfected tertiary recycled water that has not received conventional treatment may be used for nonrestricted recreational impoundments provided the recycled water is monitored for the presence of pathogenic organisms in accordance with the following:

- (1) During the first 12 months of operation and use the recycled water shall be sampled and analyzed monthly for Giardia, enteric viruses, and Cryptosporidium. Following the first 12 months of use, the recycled water shall be sampled and analyzed quarterly for Giardia, enteric viruses, and Cryptosporidium. The ongoing monitoring may be discontinued after the first two years of operation with the approval of the department. This monitoring shall be in addition to the monitoring set forth in section 60321.

(2) The samples shall be taken at a point following disinfection and prior to the point where the recycled water enters the use impoundment. The samples shall be analyzed by an approved laboratory and the results submitted quarterly to the regulatory agency.

(c) The total coliform bacteria concentrations in recycled water used for nonrestricted recreational impoundments, measured at a point between the disinfection process and the point of entry to the use impoundment, shall comply with the criteria specified in section 60301.230 (b) for disinfected tertiary recycled water.

(d) Recycled water used as a source of supply for restricted recreational impoundments and for any publicly accessible impoundments at fish hatcheries shall be at least disinfected secondary-2.2 recycled water.

(e) Recycled water used as a source of supply for landscape impoundments that do not utilize decorative fountains shall be at least disinfected secondary-23 recycled water.

§60306. Use of Recycled Water for Cooling.

(a) Recycled water used for industrial or commercial cooling or air conditioning that involves the use of a cooling tower, evaporative condenser, spraying or any mechanism that creates a mist shall be a disinfected tertiary recycled water.

(b) Use of recycled water for industrial or commercial cooling or air conditioning that does not involve the use of a cooling tower, evaporative condenser, spraying, or any mechanism that creates a mist shall be at least disinfected secondary-23 recycled water.

(c) Whenever a cooling system, using recycled water in conjunction with an air conditioning facility, utilizes a cooling tower or otherwise creates a mist that could come into contact with employees or members of the public, the cooling system shall comply with the following:

- (1) A drift eliminator shall be used whenever the cooling system is in operation.
- (2) A chlorine, or other, biocide shall be used to treat the cooling system recirculating water to minimize the growth of Legionella and other micro-organisms.

§60307. Use of Recycled Water for Other Purposes.

(a) Recycled water used for the following shall be disinfected tertiary recycled water, except that for filtration being provided pursuant to Section 60301.320(a) coagulation need not be used as part of the treatment process provided that the filter effluent turbidity does not exceed 2 NTU, the turbidity of the influent to the filters is continuously measured, the influent turbidity does not exceed 5 NTU for more than 15 minutes and never exceeds 10 NTU, and that there is the capability to automatically activate chemical addition or divert the wastewater should the filter influent turbidity exceed 5 NTU for more than 15 minutes:

- (1) Flushing toilets and urinals,
- (2) Priming drain traps,
- (3) Industrial process water that may come into contact with workers,
- (4) Structural fire fighting,
- (5) Decorative fountains,
- (6) Commercial laundries,

- (7) Consolidation of backfill around potable water pipelines,
- (8) Artificial snow making for commercial outdoor use, and
- (9) Commercial car washes, including hand washes if the recycled water is not heated, where the general public is excluded from the washing process.

(b) Recycled water used for the following uses shall be at least disinfected secondary-23 recycled water:

- (1) Industrial boiler feed,
- (2) Nonstructural fire fighting,
- (3) Backfill consolidation around nonpotable piping,
- (4) Soil compaction,
- (5) Mixing concrete,
- (6) Dust control on roads and streets,
- (7) Cleaning roads, sidewalks and outdoor work areas and
- (8) Industrial process water that will not come into contact with workers.

(c) Recycled water used for flushing sanitary sewers shall be at least undisinfected secondary recycled water.

ARTICLE 4. USE AREA REQUIREMENTS

§60310. Use Area Requirements.

(a) No irrigation with disinfected tertiary recycled water shall take place within 50 feet of any domestic water supply well unless all of the following conditions have been met:

- (1) A geological investigation demonstrates that an aquitard exists at the well between the uppermost aquifer being drawn from and the ground surface.
- (2) The well contains an annular seal that extends from the surface into the aquitard.
- (3) The well is housed to prevent any recycled water spray from coming into contact with the wellhead facilities.
- (4) The ground surface immediately around the wellhead is contoured to allow surface water to drain away from the well.
- (5) The owner of the well approves of the elimination of the buffer zone requirement.

(b) No impoundment of disinfected tertiary recycled water shall occur within 100 feet of any domestic water supply well.

(c) No irrigation with, or impoundment of, disinfected secondary-2.2 or disinfected secondary-23 recycled water shall take place within 100 feet of any domestic water supply well.

(d) No irrigation with, or impoundment of, undisinfected secondary recycled water shall take place within 150 feet of any domestic water supply well.

(e) Any use of recycled water shall comply with the following:

(1) Any irrigation runoff shall be confined to the recycled water use area, unless the runoff does not pose a public health threat and is authorized by the regulatory agency.

(2) Spray, mist, or runoff shall not enter dwellings, designated outdoor eating areas, or food handling facilities.

(3) Drinking water fountains shall be protected against contact with recycled water spray, mist, or runoff.

(f) No spray irrigation of any recycled water, other than disinfected tertiary recycled water, shall take place within 100 feet of a residence or a place where public exposure could be similar to that of a park, playground, or school yard.

(g) All use areas where recycled water is used that are accessible to the public shall be posted with signs that are visible to the public, in a size no less than 4 inches high by 8 inches wide, that include the following wording: “RECYCLED WATER - DO NOT DRINK”. Each sign shall display an international symbol similar to that shown in figure 60310-A. The Department may accept alternative signage and wording, or an educational program, provided the applicant demonstrates to the Department that the alternative approach will assure an equivalent degree of public notification.

(h) Except as allowed under section 7604 of title 17, California Code of Regulations, no physical connection shall be made or allowed to exist between any recycled water system and any separate system conveying potable water.

(i) The portions of the recycled water piping system that are in areas subject to access by the general public shall not include any hose bibbs. Only quick couplers that differ from those used on the potable water system shall be used on the portions of the recycled water piping system in areas subject to public access.

ARTICLE 5. DUAL PLUMBED RECYCLED WATER SYSTEMS

§60313. General Requirements.

(a) No person other than a recycled water agency shall deliver recycled water to a dual-plumbed facility.

(b) No recycled water agency shall deliver recycled water for any internal use to any individually-owned residential units including free-standing structures, multiplexes, or condominiums.

(c) No recycled water agency shall deliver recycled water for internal use except for fire suppression systems, to any facility that produces or processes food products or beverages. For purposes of this Subsection, cafeterias or snack bars in a facility whose primary function does not involve the production or processing of foods or beverages are not considered facilities that produce or process foods or beverages.

(d) No recycled water agency shall deliver recycled water to a facility using a dual plumbed system unless the report required pursuant to section 13522.5 of the Water Code, and which meets the requirements set forth in section 60314, has been submitted to, and approved by, the regulatory agency.

§60314. Report Submittal.

(a) For dual-plumbed recycled water systems, the report submitted pursuant to section 13522.5 of the Water Code shall contain the following information in addition to the information required by section 60323:

- (1) A detailed description of the intended use area identifying the following:
 - (A) The number, location, and type of facilities within the use area proposing to use dual plumbed systems,
 - (B) The average number of persons estimated to be served by each facility on a daily basis,
 - (C) The specific boundaries of the proposed use area including a map showing the location of each facility to be served,
 - (D) The person or persons responsible for operation of the dual plumbed system at each facility, and
 - (E) The specific use to be made of the recycled water at each facility.
- (3) Plans and specifications describing the following:
 - (A) Proposed piping system to be used,
 - (B) Pipe locations of both the recycled and potable systems,
 - (C) Type and location of the outlets and plumbing fixtures that will be accessible to the public, and
 - (D) The methods and devices to be used to prevent backflow of recycled water into the public water system.
- (4) The methods to be used by the recycled water agency to assure that the installation and operation of the dual plumbed system will not result in cross connections between the recycled water piping system and the potable water piping system. This shall include a description of pressure, dye or other test methods to be used to test the system every four years.

(b) A master plan report that covers more than one facility or use site may be submitted provided the report includes the information required by this section. Plans and specifications for individual facilities covered by the report may be submitted at any time prior to the delivery of recycled water to the facility.

§60315. Design Requirements.

The public water supply shall not be used as a backup or supplemental source of water for a dual-plumbed recycled water system unless the connection between the two systems is protected by an air gap separation which complies with the requirements of sections 7602(a) and 7603(a) of title 17, California Code of Regulations, and the approval of the public water system has been obtained.

§60316. Operation Requirements.

(a) Prior to the initial operation of the dual-plumbed recycled water system and annually thereafter, the Recycled Water Agency shall ensure that the dual plumbed system within each facility and use area is inspected for possible cross connections with the potable water system. The recycled water system shall also be tested for possible cross connections at least once every four years. The testing shall be conducted in accordance with the method described in the report submitted pursuant to section 60314. The inspections and the testing shall be performed by a cross connection control specialist certified by the California-Nevada section of the American

Water Works Association or an organization with equivalent certification requirements. A written report documenting the result of the inspection or testing for the prior year shall be submitted to the department within 30 days following completion of the inspection or testing.

(b) The recycled water agency shall notify the department of any incidence of backflow from the dual-plumbed recycled water system into the potable water system within 24 hours of the discovery of the incident.

(c) Any backflow prevention device installed to protect the public water system serving the dual-plumbed recycled water system shall be inspected and maintained in accordance with section 7605 of Title 17, California Code of Regulations.

ARTICLE 5.1. GROUNDWATER RECHARGE

§60320. Groundwater Recharge.

(a) Reclaimed water used for ground water recharge of domestic water supply aquifers by surface spreading shall be at all times of a quality that fully protects public health. The State Department of Health Services' recommendations to the Regional Water Quality Control Boards for proposed groundwater recharge projects and for expansion of existing projects will be made on an individual case basis where the use of reclaimed water involves a potential risk to public health.

(b) The State Department of Health Services' recommendations will be based on all relevant aspects of each project, including the following factors: treatment provided; effluent quality and quantity; spreading area operations; soil characteristics; hydrogeology; residence time; and distance to withdrawal.

(c) The State Department of Health Services will hold a public hearing prior to making the final determination regarding the public health aspects of each groundwater recharge project. Final recommendations will be submitted to the Regional Water Quality Control Board in an expeditious manner.

ARTICLE 5.5. OTHER METHODS OF TREATMENT

§60320.5. Other Methods of Treatment.

Methods of treatment other than those included in this chapter and their reliability features may be accepted if the applicant demonstrates to the satisfaction of the State Department of Health that the methods of treatment and reliability features will assure an equal degree of treatment and reliability.

ARTICLE 6. SAMPLING AND ANALYSIS

§60321. Sampling and Analysis.

(a) Disinfected secondary-23, disinfected secondary-2.2, and disinfected tertiary recycled water shall be sampled at least once daily for total coliform bacteria. The samples shall be taken from the disinfected effluent and shall be analyzed by an approved laboratory.

(b) Disinfected tertiary recycled water shall be continuously sampled for turbidity using a continuous turbidity meter and recorder following filtration. Compliance with the daily average

operating filter effluent turbidity shall be determined by averaging the levels of recorded turbidity taken at four-hour intervals over a 24-hour period. Compliance with turbidity pursuant to section 60301.320(a)(2)(B) and (b)(1) shall be determined using the levels of recorded turbidity taken at intervals of no more than 1.2-hours over a 24-hour period. Should the continuous turbidity meter and recorder fail, grab sampling at a minimum frequency of 1.2-hours may be substituted for a period of up to 24-hours. The results of the daily average turbidity determinations shall be reported quarterly to the regulatory agency.

(c) The producer or supplier of the recycled water shall conduct the sampling required in subsections (a) and (b).

ARTICLE 7. ENGINEERING REPORT AND OPERATIONAL REQUIREMENTS

§60323. Engineering Report.

(a) No person shall produce or supply reclaimed water for direct reuse from a proposed water reclamation plant unless he files an engineering report.

(b) The report shall be prepared by a properly qualified engineer registered in California and experienced in the field of wastewater treatment, and shall contain a description of the design of the proposed reclamation system. The report shall clearly indicate the means for compliance with these regulations and any other features specified by the regulatory agency.

(c) The report shall contain a contingency plan which will assure that no untreated or inadequately-treated wastewater will be delivered to the use area.

§60325. Personnel.

(a) Each reclamation plant shall be provided with a sufficient number of qualified personnel to operate the facility effectively so as to achieve the required level of treatment at all times.

(b) Qualified personnel shall be those meeting requirements established pursuant to Chapter 9 (commencing with Section 13625) of the Water Code.

§60327. Maintenance.

A preventive maintenance program shall be provided at each reclamation plant to ensure that all equipment is kept in a reliable operating condition.

§60329. Operating Records and Reports.

(a) Operating records shall be maintained at the reclamation plant or a central depository within the operating agency. These shall include: all analyses specified in the reclamation criteria; records of operational problems, plant and equipment breakdowns, and diversions to emergency storage or disposal; all corrective or preventive action taken.

(b) Process or equipment failures triggering an alarm shall be recorded and maintained as a separate record file. The recorded information shall include the time and cause of failure and corrective action taken.

(c) A monthly summary of operating records as specified under (a) of this section shall be filed monthly with the regulatory agency.

(d) Any discharge of untreated or partially treated wastewater to the use area, and the cessation of same, shall be reported immediately by telephone to the regulatory agency, the State Department of Health, and the local health officer.

§60331. Bypass.

There shall be no bypassing of untreated or partially treated wastewater from the reclamation plant or any intermediate unit processes to the point of use.

ARTICLE 8. GENERAL REQUIREMENTS OF DESIGN

§60333. Flexibility of Design.

The design of process piping, equipment arrangement, and unit structures in the reclamation plant must allow for efficiency and convenience in operation and maintenance and provide flexibility of operation to permit the highest possible degree of treatment to be obtained under varying circumstances.

§60335. Alarms.

(a) Alarm devices required for various unit processes as specified in other sections of these regulations shall be installed to provide warning of:

- (1) Loss of power from the normal power supply.
- (2) Failure of a biological treatment process.
- (3) Failure of a disinfection process.
- (4) Failure of a coagulation process.
- (5) Failure of a filtration process.
- (6) Any other specific process failure for which warning is required by the regulatory agency.

(b) All required alarm devices shall be independent of the normal power supply of the reclamation plant.

(c) The person to be warned shall be the plant operator, superintendent, or any other responsible person designated by the management of the reclamation plant and capable of taking prompt corrective action.

(d) Individual alarm devices may be connected to a master alarm to sound at a location where it can be conveniently observed by the attendant. In case the reclamation plant is not attended full time, the alarm(s) shall be connected to sound at a police station, fire station or other full-time service unit with which arrangements have been made to alert the person in charge at times that the reclamation plant is unattended.

§60337. Power Supply.

The power supply shall be provided with one of the following reliability features:

- (a) Alarm and standby power source.

- (b) Alarm and automatically actuated short-term retention or disposal provisions as specified in Section 60341.
- (c) Automatically actuated long-term storage or disposal provisions as specified in Section 60341.

**ARTICLE 9. ALTERNATIVE RELIABILITY REQUIREMENTS FOR USES
PERMITTING PRIMARY EFFLUENT**

§60339. Primary Treatment.

Reclamation plants producing reclaimed water exclusively for uses for which primary effluent is permitted shall be provided with one of the following reliability features:

- (a) Multiple primary treatment units capable of producing primary effluent with one unit not in operation.
- (b) Long-term storage or disposal provisions as specified in Section 60341.

**ARTICLE 10. ALTERNATIVE RELIABILITY REQUIREMENTS FOR USES
REQUIRING OXIDIZED, DISINFECTED WASTEWATER OR OXIDIZED,
COAGULATED, CLARIFIED, FILTERED, DISINFECTED WASTEWATER**

§60341. Emergency Storage or Disposal.

(a) Where short-term retention or disposal provisions are used as a reliability feature, these shall consist of facilities reserved for the purpose of storing or disposing of untreated or partially treated wastewater for at least a 24-hour period. The facilities shall include all the necessary diversion devices, provisions for odor control, conduits, and pumping and pump back equipment. All of the equipment other than the pump back equipment shall be either independent of the normal power supply or provided with a standby power source.

(b) Where long-term storage or disposal provisions are used as a reliability feature, these shall consist of ponds, reservoirs, percolation areas, downstream sewers leading to other treatment or disposal facilities or any other facilities reserved for the purpose of emergency storage or disposal of untreated or partially treated wastewater. These facilities shall be of sufficient capacity to provide disposal or storage of wastewater for at least 20 days, and shall include all the necessary diversion works, provisions for odor and nuisance control, conduits, and pumping and pump back equipment. All of the equipment other than the pump back equipment shall be either independent of the normal power supply or provided with a standby power source.

(c) Diversion to a less demanding reuse is an acceptable alternative to emergency disposal of partially treated wastewater provided that the quality of the partially treated wastewater is suitable for the less demanding reuse.

(d) Subject to prior approval by the regulatory agency, diversion to a discharge point which requires lesser quality of wastewater is an acceptable alternative to emergency disposal of partially treated wastewater.

(e) Automatically actuated short-term retention or disposal provisions and automatically actuated long-term storage or disposal provisions shall include, in addition to provisions of (a),

(b), (c), or (d) of this section, all the necessary sensors, instruments, valves and other devices to enable fully automatic diversion of untreated or partially treated wastewater to approved emergency storage or disposal in the event of failure of a treatment process and a manual reset to prevent automatic restart until the failure is corrected.

§60343. Primary Treatment.

All primary treatment unit processes shall be provided with one of the following reliability features:

(a) Multiple primary treatment units capable of producing primary effluent with one unit not in operation.

(b) Standby primary treatment unit process.

(c) Long-term storage or disposal provisions.

§60345. Biological Treatment.

All biological treatment unit processes shall be provided with one of the following reliability features:

(a) Alarm and multiple biological treatment units capable of producing oxidized wastewater with one unit not in operation.

(b) Alarm, short-term retention or disposal provisions, and standby replacement equipment.

(c) Alarm and long-term storage or disposal provisions.

(d) Automatically actuated long-term storage or disposal provisions.

§60347. Secondary Sedimentation.

All secondary sedimentation unit processes shall be provided with one of the following reliability features:

(a) Multiple sedimentation units capable of treating the entire flow with one unit not in operation.

(b) Standby sedimentation unit process.

(c) Long-term storage or disposal provisions.

§60349. Coagulation.

(a) All coagulation unit processes shall be provided with the following mandatory features for uninterrupted coagulant feed:

- (1) Standby feeders,
- (2) Adequate chemical stowage and conveyance facilities,
- (3) Adequate reserve chemical supply, and
- (4) Automatic dosage control.

(b) All coagulation unit processes shall be provided with one of the following reliability features:

- (1) Alarm and multiple coagulation units capable of treating the entire flow with one unit not in operation;
- (2) Alarm, short-term retention or disposal provisions, and standby replacement equipment;
- (3) Alarm and long-term storage or disposal provisions;
- (4) Automatically actuated long-term storage or disposal provisions, or
- (5) Alarm and standby coagulation process.

§60351. Filtration.

All filtration unit processes shall be provided with one of the following reliability features:

- (a) Alarm and multiple filter units capable of treating the entire flow with one unit not in operation.
- (b) Alarm, short-term retention or disposal provisions and standby replacement equipment.
- (c) Alarm and long-term storage or disposal provisions.
- (d) Automatically actuated long-term storage or disposal provisions.
- (e) Alarm and standby filtration unit process.

§60353. Disinfection.

(a) All disinfection unit processes where chlorine is used as the disinfectant shall be provided with the following features for uninterrupted chlorine feed:

- (1) Standby chlorine supply,
- (2) Manifold systems to connect chlorine cylinders,
- (3) Chlorine scales, and
- (4) Automatic devices for switching to full chlorine cylinders. Automatic residual control of chlorine dosage, automatic measuring and recording of chlorine residual, and hydraulic performance studies may also be required.

(b) All disinfection unit processes where chlorine is used as the disinfectant shall be provided with one of the following reliability features:

- (1) Alarm and standby chlorinator;
- (2) Alarm, short-term retention or disposal provisions, and standby replacement equipment;
- (3) Alarm and long-term storage or disposal provisions;
- (4) Automatically actuated long-term storage or disposal provisions; or
- (5) Alarm and multiple point chlorination, each with independent power source, separate chlorinator, and separate chlorine supply.

§60355. Other Alternatives to Reliability Requirements.

Other alternatives to reliability requirements set forth in Articles 8 to 10 may be accepted if the applicant demonstrates to the satisfaction of the State Department of Health that the proposed alternative will assure an equal degree of reliability.

CHAPTER 4. WATER TREATMENT DEVICES

ARTICLE 1. DEFINITIONS

§60400. Certification.

“Certification” means that a water treatment device or a treatment component used in water treatment devices has met the testing requirements specified in section 60435 or the testing requirements accepted by the Department pursuant to section 4057.1(c) ⁵ of the Health and Safety Code as defined in section 60440.

§60401. Health and Safety Claim.

(a) “Health or Safety Claim” means one or more of the following:

(1) Any claim that the water treatment device or treatment component will remove or reduce a contaminant for which a primary drinking water standard as defined in Health and Safety Code section 4010.1 ⁶ or a treatment requirement as authorized in sections 4023.1(c) ⁷ and 4023.3(d) ⁸ of the Health and Safety Code has been established.

(2) Any claim that the water treatment device or treatment component will remove or reduce a contaminant for which a national primary drinking water standard or treatment requirement has been established under the U.S. Safe Drinking Water Act (PL 93-523 and as amended under PL 99-339) (42 U.S.C. section 300g-1).

(3) Any claim that the water treatment device or treatment component will remove or reduce a contaminant which has been determined to present a health risk by the United States Environmental Protection Agency pursuant to sections 1445(a)(2) and 1445(a)(3) of the U.S. Safe Drinking Water Act (PL 93-523 and as amended under PL 99-339) (42 U.S.C. section 300j-4(a)(2) and (a)(3)).

§60402. Independent Laboratory.

“Independent Laboratory” means a laboratory that is neither owned or operated by the manufacturer or an entity which is a parent or subsidiary company to the manufacturer of a water treatment device or treatment component nor is in a partnership with the manufacturer or entity which is a parent or subsidiary company to the manufacturer.

§60403. Manufacturer.

(a) “Manufacturer” means any person, as defined by section 4057(c) ⁹ of the California Health and Safety Code, that makes, converts, constructs, or produces water treatment devices or

⁵ Section 4057.1(c) has been recodified to 116830(c). OAL has been notified of this by request for a “change without regulatory effect”.

⁶ Section 4010.1 has been recodified to 116275. OAL has been notified of this by request for a “change without regulatory effect”.

⁷ Section 4023.1(c) has been recodified to 116365(c). OAL has been notified of this by request for a “change without regulatory effect”.

⁸ Section 4023.3(d) has been recodified to 116375(d). OAL has been notified of this by request for a “change without regulatory effect”.

⁹ Section 4057(c) has been recodified to 116825(c). OAL has been notified of this by request for a “change without regulatory effect”.

treatment components for the purpose of sale, lease or rent to individuals, corporations, associations, or other entities. Manufacturer also includes:

(1) Persons that assemble water treatment devices or treatment components from components manufactured by another entity.

(2) Persons who add their own product name or product identification to water treatment devices or treatment components which have been manufactured or assembled by another entity.

§60404. Recognized Testing Organization.

“Recognized Testing Organization” means an independent laboratory which has been accredited by the Department pursuant to Health and Safety Code, division 1, part 2, chapter 7.5, section 1010 et seq.

§60405. Testing Requirements.

“Testing Requirements” means the contaminant reduction and general performance requirements pursuant to section 60435.

§60406. Modification.

“Modification” means any change made to a certified water treatment device or certified treatment component which may affect its performance in meeting the testing requirements or an change in the health or safety claims made with respect to the certified water treatment device or certified treatment component.

ARTICLE 2. CERTIFICATION REQUIREMENTS

§60407. Certification Period.

The certification shall be valid for one year and shall be renewable for a period not to exceed five years.

ARTICLE 3. APPLICATION REQUIREMENTS

§60410. Certification Application.

(a) Application for certification shall be submitted by the manufacturer for each water treatment device or treatment component.

(b) A completed application shall include the following:

- (1) Applicant business name, address, and phone number.
- (2) A contact person, address, and phone number.
- (3) The identification of each and every specific contaminant for each and every health or safety claim which is made for the water treatment device or treatment component.
- (4) Product design specifications and engineering information including blueprints or similar drawing which will provide detailed information about the construction of the water treatment device and treatment components.
- (5) Parts list for the water treatment device or treatment component.
- (6) Test data and verification as prescribed by section 60435, 60445, 60450 or 60455.
- (7) A list of all names, model numbers, or other product identifications which are used by the manufacturer to describe the water treatment device or treatment component.

(8) A statement containing the following declaration by the manufacturer: “This water treatment device or treatment component, which is identified as (insert name, model number, or other product identification) has been toxicologically reviewed and tested to verify that no substances are contributed by the unit to the treated water at levels that would adversely affect the health of the users. The toxicological review and testing was conducted pursuant to the requirements of the material review and qualifications procedures contained in the appropriate testing standard referenced in Table I of section 60435 or Table II of section 60450”.

(9) The application shall be signed by a person in a principal management position.

§60415. Certification Renewal.

(a) A completed application for renewal of a certification shall be submitted by the manufacturer. A completed application shall include the following:

- (1) Applicant business name, address, and phone number.
- (2) A contact person, address, and phone number.
- (3) A written statement that identifies any change to the information provided as described in section 60410(b)(7) and (8) or changes to section 60410(b)(4) and (5) which do not constitute modifications.
- (4) The application shall be signed by a person in a principal management position.

(b) The manufacturer shall be responsible for making application for renewal of a certification at least 30 days prior to the expiration date. If the application is submitted after that date, a late application penalty must be paid.

(c) In the event that the application for renewal of the certification is denied by the department, the manufacturer will be notified by registered mail of the denial and the reasons for the denial. The manufacturer may appeal the denial in accordance with Government Code, title 2, division 3, chapter 5, section 11500 et seq. The registered letter providing notice of the denial will be considered the accusation within the appeal process.

§60425. Modification of a Certification.

(a) Any modification made to a certified water treatment device or certified treatment component without the written approval of the Department shall void the certification.

(b) Application to modify an existing certification shall be submitted by the manufacturer. A completed application for the modification of a certified water treatment device or certified treatment component shall include the following:

- (1) Applicant business name, address, and telephone number.
- (2) Name of a contact person, address, and telephone number.
- (3) A statement of the reasons for the modification(s).
- (4) A description of the modification(s) to the certified water treatment device or certified treatment component such as changes in the health or safety claims; changes in treatment components; changes in parts which are in direct contact with the influent or product water; or changes to parts which affect the treatment process or product safety
- (5)¹⁰

¹⁰ Subparagraph 60425(b)(5) appears to have never been adopted; it was intended to read: “Test data and verification in accordance with the testing requirements in Section 60435, Section 60455 or the manufacturer’s

- (6) Changes to the parts list provided pursuant to section 60410(b)(5).
- (7) Changes to the product design, specifications and engineering information including blueprints or similar drawings provided pursuant to section 60410(b)(4).
- (8) Changes to the list of names, model numbers, or other product identifications provided pursuant to section 60410(b)(7).
- (9) A statement containing the following declaration by the manufacturer: “This water treatment device or treatment component, which is identified as (insert name, model number, or other product identification) has been to toxicologically reviewed and tested to verify that no substances are contributed by the unit to the treated water at levels that would adversely affect the health of the users. The toxicological review and testing was conducted pursuant to the requirements of the material review and qualifications procedures contained in the appropriate testing standard referenced in Table I of section 60435 or Table II of section 60450.”
- (10) The application shall be signed by a person in a principal management position.

§60430. Processing Time.

- (a) Within 45 calendar days of receipt of an application for certification, or modification of a certified water treatment device or certified treatment component, the Department shall inform the applicant in writing that the application is complete and accepted for filing, or that it is incomplete and what specific information is needed.
- (b) Within 90 calendar days from the date of filing a completed application for certification or modification of a certified water treatment device or certified treatment component, the Department shall inform the applicant in writing of its decision.
- (c) Within 30 calendar days of receipt of an application for renewal of certification, the Department shall inform the applicant in writing that the application is complete and accepted for filing, or that it is incomplete and what specific information is needed.
- (d) Within 30 calendar days of receipt of a completed application for the renewal of certification, the Department shall inform the applicant in writing that certification has or has not been extended.

ARTICLE 4. TESTING AND TESTING PROTOCOLS

§60435. Testing and Testing Protocols.

- (a) To be considered for certification, a water treatment device or treatment component shall be tested and found to meet the requirements set forth in Table I.
- (b) The testing shall be conducted:
 - (1) By a recognized testing organization; or
 - (2) By a manufacturer pursuant to section 60445.

testing protocol accepted by the Department pursuant to Section 4057.1(c) of the Health and Safety Code, as defined in Section 60440, for new health and safety claims or test data and verification which substantiates the effect of the modification(s) on the performance of the water treatment device or treatment component in meeting the testing requirements.”

(c) All contaminant reduction and general performance testing shall be conducted by a laboratory which has been accredited by the Department pursuant to Health and Safety Code, division 1, part 2, chapter 7.5, section 1010 et seq. Test data submitted pursuant to section 60450 are exempt from this provision.

Table I
Testing Requirements

TESTING PROTOCOLS

<i>Treatment Process</i>	<i>Reference Standard</i>	<i>Contaminant Reduction Requirements (Sections)</i>	<i>General Performance Requirements (Sections)</i>
Mechanical Filtration	NSF Standard 53 ¹	5.2, 5.2.1, 5.3, 5.3.1, 5.3.2	4.2, 4.2.1, 4.2.2, 4.2.3, 4.2.4, 4.4
Activated Carbon		5.3.3	5.5
Reverse Osmosis	NSF Standard 58 ²	5.3, 5.4, 5.4.1, 5.4.2, 5.4.3	4.1, 4.7.2, 4.7.3
Cation Exchange	NSF Standard 44 ³	5.2, 5.2.1	4.3
Distillation	NSF Standard 62 ⁴	5.1, 5.2, 5.3	4.21, 4.5, 4.5.1, 4.5.2, 4.5.2.1, 5.4

Notes: ¹National Sanitation Foundation Standard 53, Drinking Water Treatment Units Health Effects, June 1988.

²National Sanitation Foundation Standard 58, Reverse Osmosis Drinking Water Treatment Systems, November 1986.

³National Sanitation Foundation Standard 44, Cation Exchange Water Softeners, December 1987.

⁴National Sanitation Foundation Standard 62, Drinking Water Distillation Systems, May 1989.

§60440. Manufacturer's Testing Protocols.

(a) Whenever the testing requirements of Table I of section 60435 are not applicable for the treatment process or the specific contaminant for which certification is requested, the applicant shall submit proposed testing protocols to the Department for approval prior to the testing of the water treatment device or treatment component.

(b) The proposed testing protocols shall include the following:

- (1) Testing shall be conducted in duplicate.
- (2) Testing shall be conducted under pressure and flow conditions typical of the end use of the water treatment device or treatment component.
- (3) Testing shall provide an equivalent level of assurance that the performance of a water treatment device or treatment component is consistent with the performance of those water treatment or treatment components devices which are tested against the testing requirements prescribed in Table I of section 60435.

§60445. Manufacturer's Test Data.

(a) Test data developed by a manufacturer and submitted to the Department pursuant to the provisions of section 60435(b)(2) shall meet all of the following requirements:

(1) The data was obtained using the testing requirements prescribed in section 60435 or the testing requirements accepted by the Department pursuant to section 4057.1(c) ¹¹ of the Health and Safety Code as defined in section 60440.

(2) The data was produced by a laboratory which is wholly owned by the manufacturer of the water treatment device or treatment component.

(3) The manufacturer has complied with the Department's request for information regarding the qualifications of the laboratory staff, laboratory equipment used for testing and analysis, and records related to the testing under review.

(4) The manufacturer's laboratory has been inspected by the Department's staff under a cost reimbursement agreement to recover the cost incurred to make the inspection(s).

(5) The manufacturer has performed replicate testing, as specified by the Department, during the on-site inspection. Such testing shall be required when test data submitted pursuant to this section is incomplete or there is reasonable doubt regarding the ability of the treatment process to remove or reduce one or more of the specific contaminants tested.

§60450. Prior Test Data.

When a manufacturer submits prior test data to satisfy the requirements of section 60410(b)(6), the manufacturer shall demonstrate that any test data developed before September 1, 1990 was developed by an independent laboratory or by a manufacturer's laboratory; and that the test data was developed using a testing protocol that was consistent with the applicable testing requirements set forth in Table II. All test data considered by the Department pursuant to this paragraph shall have been produced from testing that was conducted after January 1, 1983.

¹¹ Section 4057.1(c) has been recodified to 116380(c). OAL has been notified of this by request for a “change without regulatory effect”.

Table II
Testing Requirements for Prior Data

<i>Treatment Process</i>	<i>Reference Standard</i>	TESTING PROTOCOLS	
		<i>Contaminant Reduction Requirements (Sections)</i>	<i>General Performance Requirements (Sections)</i>
Mechanical Filtration	NSF Standard 53 ¹	5.2, 5.2.1, 5.3, 5.3.1, 5.3.2	4.2, 4.2.1, 4.2.2, 4.2.3, 4.2.4, 4.4
Activated Carbon		5.3.3	5.5
Reverse Osmosis	NSF Standard 58 ²	5.3, 5.4, 5.4.1, 5.4.2, 5.4.3	4.1, 4.7.2, 4.7.3
Cation Exchange	NSF Standard 44 ³	5.2, 5.2.1	4.3
Distillation	NSF Standard 62 ⁴	5.1, 5.2, 5.3	4.21, 4.5, 4.5.1, 4.5.2, 4.5.2.1, 5.4

Notes: ¹ National Sanitation Foundation Standard 53, Drinking Water Treatment Units Health Effects, June 1988.

² National Sanitation Foundation Standard 58, Reverse Osmosis Drinking Water Treatment Systems, November 1986.

³ National Sanitation Foundation Standard 44, Cation Exchange Water Softeners, December 1987.

⁴ National Sanitation Foundation Standard 62, Drinking Water Distillation Systems, May 1989.

§60455. Extrapolation of Data.

(a) Where a manufacturer has several water treatment devices or treatment components each using the same treatment technology and they are of similar construction, the manufacturer may submit test data developed pursuant to section 60435 or the manufacturer's testing protocol accepted by the Department pursuant to section 4057.1(c) ¹² of the Health and Safety Code, as defined in section 60440, on one water treatment device or treatment component as representative of the others under the following conditions:

(1) The manufacturer submits evidence that extrapolation will provide test data that is reasonably consistent with empirical data that would be obtained from the actual testing of the water treatment device or treatment component.

(2) Extrapolation is limited to the scaling or down in size as measured by the volume of product water produced or volume of water to be treated.

(3) Scaling up shall be limited to three times greater than the size of the representative water treatment device or treatment component.

(4) Scaling down shall be limited to one third the size of the representative water treatment device or treatment component.

§60460. Retesting.

(a) The manufacturer shall retest each certified water treatment device or certified treatment component every five years from the date of certification to insure continued compliance with this chapter and shall submit the results to the Department along with the application for recertification.

¹² Section 4057.1(c) has been recodified to 116380(c). OAL has been notified of this by request for a "change without regulatory effect".

(b) The manufacturer shall retest a certified water treatment device or certified treatment component for the reduction of a contaminant or for a general performance requirement when the Department determines through testing pursuant to section 60435 or the manufacturer's testing protocol accepted by the Department pursuant to section 4057.1 of the Health and Safety Code, as defined in section 60440, that the water treatment device or treatment component is not meeting a requirement when the water treatment device or treatment component is used according to the manufacturer's instructions. The manufacturer shall comply with the following requirements when retesting pursuant to this paragraph:

(1) Retesting pursuant to subsection (b) shall be conducted by a recognized testing organization in accordance with section 60435 or the manufacturer's testing protocol and shall be initiated within three months of notification by registered mail of the Department's determination.

(2) The results of retesting shall be submitted to the Department within 60 days of initiating the testing.

(3) The results of retesting shall be in conformance with section 60435 or the manufacturer's testing protocol. Manufacturers of certified water treatment devices or certified treatment components determined to be out of compliance with section 60435 or the manufacturer's testing protocol will be notified by registered mail of the decertification and reason for decertification. The manufacturer may appeal the decertification in accordance with Government Code, title 2, division 3, chapter 5, section 11500 et seq. The registered letter providing notice of the decertification will be considered the accusation within the appeal process.

(c) Retesting pursuant to subdivision (a) shall not be required for a certified water treatment device or certified treatment component if the water treatment device or treatment component is listed under a product listing program operated a non-profit third party testing organization and subject to the following provisions:

(1) The listing program is operated by a recognized testing organization.

(2) The listing program includes retesting of the water treatment device or its treatment components at least every five years.

(3) The listing program requires that the manufacturer maintain a quality assurance and quality control program for the manufacturing of the water treatment device or treatment component.

(4) The listing program includes visits at least every two years to the manufacturing plants to inspect the manufacturing of the water treatment device or treatment component and the quality control records maintained by the manufacturer.

ARTICLE 5. PRODUCT LABELING AND DATA SHEET REQUIREMENTS

§60465. Product Labeling.

(a) A permanent, clear, and legible plate or label containing the following information shall be securely affixed to each certified water treatment device or certified treatment component so that such plate or label can only be removed with a purposeful effort and the plate or label shall be affixed in a readily accessible location:

(1) Equipment name.

(2) Model designation.

- (3) Name of manufacturer.
- (4) The statement “For conditions of use, health claims certified by the California Department of Health Services, and replacement parts, see product data sheet.”
- (5) The statement “California Department of Health Services certification Number: XXXXXX.”

§60470. Product Data Sheet.

(a) Each certified water treatment device shall be accompanied by a Product Data Sheet which includes the following information:

- (1) A copy of the certificate by which the Department has granted certification of the water treatment device. The copy may be incorporated in the product data sheet or attached to the sheet.
- (2) Service flow rate in gallons per minute or gallons per day (Liters/day) or the production rate in gallons per day (Liters/day).
- (3) Rated service life of the water treatment device (where applicable).
- (4) General use conditions and needs, such as maximum turbidity and bacteriological quality of source water.
- (5) Model or part number and estimated cost of components that must be periodically or routinely, replaced to maintain the effectiveness of the certified water treatment device.
- (6) Maximum and minimum operating temperature in degrees Fahrenheit and degrees Centigrade.
- (7) Maximum and minimum operating pressure in pounds per square inch and kilograms per square centimeter.
- (8) A reference to the owner's manual for general operation and maintenance requirements, and the manufacturer's warranty.

ARTICLE 6. FEES

§60475. Fees.

(a) The fees specified shall be paid pursuant to the requirements of this chapter. The fees paid are non-refundable:

- | | |
|--------------------------------------|--------|
| (1) Certification or Recertification | \$1400 |
| (2) Annual Renewal | \$400 |
| (3) Late Renewal Penalty | \$200 |
| (4) Modification of a Certification | \$300 |

CHAPTER 12. SAFE DRINKING WATER PROJECT FUNDING

ARTICLE 1. DEFINITIONS

§63000.10. Applicant.

“Applicant” means a public water system that is applying for funding from the State Revolving Fund.

§63000.13. CEQA.

“CEQA” means the California Environmental Quality Act and the regulations and guidelines adopted by the California Resources Agency to implement that Act.

§63000.16. Completion of Project.

“Completion of Project” means, in the case of construction, that the Department has conducted a final inspection of the project and has notified the Department of Water Resources that project construction has been completed. In the case of planning loans, completion of project means that the Department has received and approved the planning report and has notified the Department of Water Resources of the approval.

§63000.19. Construction Funding.

“Construction Funding” means a loan or grant to cover the cost of planning, preliminary engineering, design, acquisition of water systems, purchase of land or equipment, and construction or consolidation of a water system project.

§63000.25. Disadvantaged Community.

“Disadvantaged Community” means a community whose median household income is 65 percent or less of the statewide median household income.

§63000.28. Drinking Water Standards.

“Drinking Water Standards” means all drinking water requirements set forth in the California Safe Drinking Water Act (section 116275 et. seq. Health and Safety Code) and the regulations adopted by the Department pursuant thereto.

§63000.31. Eligible Project Cost.

“Eligible Project Cost” means those costs of a proposed project that are deemed by the Department to comply with the eligibility criteria set forth in section 63010.

§63000.34. Federal Cross-Cutters.

“Federal Cross-cutters” means those federal laws, regulations, policies and executive orders listed in Appendix VII of the USEPA program guidelines.

§63000.35. Federal Funding Allocation.

“Federal Funding Allocation means the capitalization grant awarded by the USEPA to the Department from a specific federal fiscal year allocation.

§63000.37. Notice of Acceptance of Application.

“Notice of Acceptance of Application” means a notice sent to the applicant that: (1) identifies the portions and costs of the project that have been determined to be eligible for State Revolving Fund funding; (2) explains the terms and conditions that will govern the loan or grant for the project; and (3) sets forth the conditions and schedules that must be met by the applicant before a funding agreement will be executed.

§63000.40. Funding Application.

“Funding Application” means the appropriate application form to be submitted by an applicant for State Revolving Fund funding. The application forms are: Application for Construction Funds [DHS 8585 (1/99)]; Application for Short Term Planning Loans [DHS 8586 (1/99)]; and Application for Refinancing [DHS 8587 (1/99)], which are all incorporated by reference.

§63000.43. Funding Agreement.

“Funding Agreement” means the loan or grant document that is signed by the funding recipient and the Department of Water Resources, acting as the agent for the Department, that consummates the funding agreement.

§63000.46. Funding Agreement Execution.

“Funding Agreement Execution” means that the funding agreement has been signed by both the funding recipient and the Department of Water Resources acting as the agent for the Department.

§63000.49. Local Match Project.

“Local Match Project” means a project whereby the local public agency provides 20 percent of the total eligible cost of the project to the Department to cover the State's matching share of the federal dollars.

§63000.62. Median Household Income.

“Median Household Income” means the household income that represents the median value for a service area of a public water system.

§63000.65. NEPA.

“NEPA” means the National Environmental Policy Act (42 U.S.C. 4331 et seq.) or a NEPA equivalent or NEPA- Like process approved by the USEPA for the drinking water revolving fund loan program.

§63000.68. Planning Loan.

“Planning Loan” means a loan to cover the cost of studies, planning, and preliminary engineering for a project.

§63000.71. Project.

“Project” means all planning, engineering, construction, and construction related activities undertaken to solve the specific water system problem for which the project was ranked on the project priority list.

§63000.74. Project Priority List.

“Project Priority List” means the list of projects for which public water systems have requested funding and that have been ranked in priority order in accordance with section 116760.70 of the Health and Safety Code.

§63000.77. Project Primarily to Serve Future Growth.

“Project Primarily to Serve Future Growth” means a project, or project component, that has a design capacity that is more than double the design capacity needed to serve the existing water demand at peak daily flow.

§63000.80. Refinancing Loan.

“Refinancing Loan” means a loan to refinance the remaining balance of an existing indebtedness incurred for construction of an otherwise eligible project where the construction of such project commenced after July 1, 1993.

§63000.83. Service Area.

“Service Area” means all of the geographical area that is currently served drinking water by a public water system.

§63000.86. State Revolving Fund.

“State Revolving Fund” means the Safe Drinking Water State Revolving Fund created pursuant to section 116760.30 of the Health and Safety Code.

§63000.89. Target Consumer Rate.

“Target Consumer Rate” means an amount equal to 1 1/2 percent of the median household income for water systems where the median household income is equal to or less than the statewide median household income or 2 percent of the median household income for water systems where the median household income is greater than the statewide median household income.

§63000.92. USEPA.

“USEPA” means the United States Environmental Protection Agency.

§63000.95. USEPA Program Guidelines.

“USEPA Program Guidelines” means the Drinking Water State Revolving Fund Program Guidelines (EPA 816-R-97-005, February 28, 1997) adopted by the USEPA.

ARTICLE 2. FINANCING CRITERIA

§63010. Project Eligibility.

(a) In order to be eligible for funding, an applicant shall be either a community water system or a non-profit non-community water system, and have the authority to enter into a debt contract with the State.

(b) Only those project costs that are directly associated with the planning, design, and construction of a project shall be eligible for funding.

(c) The following project costs, that would otherwise be eligible pursuant to subsection (b), shall be ineligible for funding:

(1) Land acquisition except for land or land access that is integral to the construction of source, treatment or distribution facilities.

(2) Ongoing operation and maintenance costs.

(3) Any project facilities that are primarily to serve future growth.

(4) Dams or rehabilitation of dams and any raw water storage facilities.

(5) Water rights except water rights acquired through consolidation with another water system.

(6) Laboratories except those necessary for operation of a treatment facility.

(7) Costs arising from construction change orders that occur after funding agreement execution except for the following:

(A) A change in the executed funding agreement amount based on the final accepted construction bid as provided in section 63051(b).

(B) Change orders that are a result of changes in drinking water standards.

(C) Change orders requested by the Department.

§63011. Planning Loans.

(a) Planning funds shall be used only for loans to finance planning, studies, and preliminary engineering costs for an eligible project. Planning funds shall not be used for detailed design, equipment purchase, or construction.

(b) Planning loans shall be limited to a maximum amount of \$100,000 per project.

(c) Projects funded by planning loans shall be completed and a planning report submitted to the Department within 18 months from funding agreement execution.

§63012. Construction Funding.

(a) Construction funding shall be limited to a maximum amount of \$20,000,000 per project.

(b) A public water system shall not be awarded more than an aggregate amount of \$30,000,000 in construction funding and refinancing loans from a federal funding allocation.

(c) The funding limitations established by this section shall not apply during the month preceding the federal deadline for obligation of funds to applicants from a federal funding allocation.

§63013. Refinancing Loans.

(a) Refinancing loan funds shall only be used to refinance the remaining balance of an existing indebtedness incurred by the construction of an eligible project.

(b) An applicant for a refinancing loan shall be a public agency.

(c) Refinancing loans shall be limited to a maximum amount of \$20,000,000 per project and an aggregate total of \$30,000,000 per water system from a federal funding allocation.

§63014. Local Match Projects.

(a) Local match projects shall be considered to be the same as construction projects and shall be subject to the same conditions and limitations.

(b) An applicant for a local match project shall be a community water system owned by a public agency.

(c) Only projects that exceed \$5,000,000 in eligible project costs shall be eligible for local matching.

ARTICLE 3. DISADVANTAGED COMMUNITIES**§63020. Grant Eligibility.**

Funding in the form of a grant shall be made only to a public water system owned by a public agency that is serving a disadvantaged community.

§63021. Grant Limitations.

(a) The maximum amount of grant funding to be awarded to a project shall be limited to the following percentages according to the classification of the project using the Project Priority List adopted September 15, 1998, pursuant to Health and Safety Code section 116760.70:

(1) 80% of the eligible project cost if the project is in Project Priority List categories A through G;

(2) 65% of the eligible project cost if the project is in Project Priority List categories H through L; or

(3) 50% of the eligible project cost if the project is in Project Priority List categories M through O.

(b) Grant funds awarded to a disadvantaged community project shall not exceed \$10,000 per service connection.

(c) The maximum amount of grant funding that one water system may receive from a federal funding allocation shall not exceed \$1,000,000.

(d) The total amount of grant funding awarded to a disadvantaged community for a project shall be limited to the amount of funding needed so that the projected average residential water rate, which would result from a loan from the State Revolving Fund, will not exceed the target consumer rate.

ARTICLE 4. APPLICATION PROCESS**§63025. Funding Application.**

(a) All funding applications shall be submitted by public water systems only after a water system has received a written invitation from the Department to do so.

(b) Upon receipt of a written invitation from the Department to submit a funding application, an applicant shall indicate their intention to submit the application within the deadline set forth in the letter by signing a statement of intent. The statement of intent shall be received by the Department prior to close of business on the day indicated in the invitation.

(c) In order to be assured of receiving funding consideration from a specific federal funding allocation, a completed funding application shall be submitted to the Department by close of business on the date set forth in the letter of invitation.

(d) A funding application shall not be accepted for processing unless the funding application form is completed and the additional information specified in sections 63026, 63027, and 63028 is submitted.

§63026. Technical Information.

(a) Each funding application for construction funding or a refinancing loan shall contain the following information:

- (1) A map showing the current service area of the water system.
- (2) A map or drawing showing the location of all existing water sources, pumping facilities, treatment facilities, storage tanks or reservoirs, water transmission mains, and water main pressure zones.
- (3) A schedule for full compliance with CEQA and NEPA.

(b) Each applicant for construction funding shall prepare and submit with the funding application, an engineering report addressing all of the following elements:

- (1) An identification and evaluation of alternative solutions to the problem. The evaluation shall compare estimated project costs, relative effectiveness in solving the problem, and environmental impacts of each alternative.
- (2) An evaluation, including costs and feasibility, of possible physical consolidation with other water systems.
- (3) A description of the selected or proposed alternative.
- (4) A conceptual or preliminary engineering design, including the design capacity of project components, and a schematic layout of the proposed project. All assumptions, criteria, and calculations used for the preliminary design shall be shown.
- (5) An analysis and estimation of the anticipated useful life of components of the proposed project.
- (6) A preliminary analysis of projected growth anticipated to occur within the service area within the next ten years, the resultant projected water demand, and the amount of growth or water demand to be included in the project.
- (7) A proposed design and construction schedule.
- (8) A cost estimate breakdown of the proposed project.

(c) Each funding application for a refinancing loan shall include all of the following:

- (1) A description and estimated costs of all alternative solutions to the problem that were considered prior to construction of the selected project.
- (2) A layout or schematic drawing showing the location and relationship of all project facilities including the newly constructed portions.
- (3) A description of the facilities that were constructed and for which refinancing is being requested including an estimate of their useful life.
- (4) The design capacities of project components and the design parameters and engineering calculations used in the sizing and design of the project components.
- (5) An analysis and estimation of the water demand within the service area at the time of start of construction of the project and a projection of anticipated growth and water demand for a ten-year period commencing from the time of start of construction.
- (6) A cost breakdown of the constructed project.
- (7) As-built plans for all of the construction facilities that are to be covered by the refinancing loan.
- (8) The final plans and specifications used to solicit and select the construction bid.
- (9) Information that demonstrates that all applicable federal cross-cutters have been complied with.

§63027. Managerial Information.

Each funding application shall contain the following:

(a) Copies of any leases, easements, or other documentation for land, water sources, treatment, pumping, storage, or distribution facilities used in the operation of the water system that are not owned by the water system.

(b) A written statement by an attorney certifying that the water system is a legal entity authorized to operate a public water system and has the authority to enter into a long-term indebtedness with the State of California.

(c) A description of the water rights held by the water system and any available documentation to substantiate those rights.

§63028. Financial Information.

(a) Each funding application shall contain the following:

(1) A projected revenue/expenditure analysis that compares all anticipated water system revenues and planned expenditures for the next five years.

(2) An analysis and calculation of the average current water rate charged to residential users and the projected average water rate that will be charged to residential users following completion of the eligible project. This analysis is not required for non-community water systems.

(3) Financial statements (balance and income) of the water system covering the past three years.

(4) A description of the accounting and budget control procedures used and any proposed changes to the procedures.

(b) In addition to the requirements of subsection (a), applicants for a refinancing loan shall also include a certification that proceeds of the previous debt were used to pay for eligible project costs. If ineligible items were funded, a list of those items and their costs shall be included.

(c) In addition to the requirements of subsection (a), applicants that propose to use local matching funds pursuant to section 63014 shall include a resolution adopted by the governing body. The resolution shall identify the source of the local matching funds and pledge those funds for deposit into the State Revolving Fund.

§63029. Notice of Acceptance of Application.

Within 30 days of receipt of a Notice of Acceptance of Application from the Department of Water Resources, the applicant shall indicate their acceptance of the terms and conditions of the funding offer by countersigning the letter and returning it to the Department of Water Resources.

§63030. Project By-Passing.

(a) A project on the Project Priority List shall be by-passed for funding consideration for the current fiscal year if any of the following apply:

(1) The water system indicated that it did not desire to receive funding for a particular project in the current fiscal year.

(2) A water system fails to sign a statement of intent to submit an application and return it to the Department by the date identified in the letter as specified in section 63025(b).

(3) A water system, receiving an invitation from the Department to submit a funding application, informs the Department that it does not wish to submit an application at this time.

(4) A funding application is rejected by the Department for failure on the part of the applicant to comply with the requirements of this chapter.

(5) An applicant fails to sign and return the Notice of Acceptance of Application within 30 days of receipt of the Notice of Acceptance of Application.

(6) The Department of Water Resources or the Department of Health Services withdraws a previously issued Notice of Acceptance of Application for failure on the part of the applicant to comply with the terms and conditions as stated in the Notice of Acceptance of Application.

(7) The applicant has reached the \$30,000,000 funding maximum set forth in section 63012(b).

(b) Any project that is by-passed for any reason shall remain on the Project Priority List and be eligible for future funding consideration.

ARTICLE 5. INFORMATION TO BE SUBMITTED PRIOR TO EXECUTION OF THE FUNDING AGREEMENT

§63040. Technical and Financial Information.

(a) All applicants for construction funding or refinancing loans shall comply with all environmental review and procedural requirements of CEQA and NEPA prior to execution of the funding agreement.

(b) Prior to execution of a funding agreement that includes a loan, each applicant for funding shall submit the following:

(1) A resolution or ordinance adopted by the governing body dedicating the source of repayment of the loan.

(2) A completed and signed Fiscal Services Agreement [DWR-4280 (New 2/99) which is incorporated by reference].

ARTICLE 6. DESIGN AND CONSTRUCTION

§63050. Plans and Specifications.

(a) Applicants for construction funding shall submit final design plans and project specifications to the Department in accordance with the schedule set forth in the Notice of Acceptance of Application.

(b) Project specifications for projects proposed by water systems that serve more than 1,000 service connections shall comply with federal cross-cutters.

§63051. Construction.

(a) Construction contracts awarded by the applicant for any project involving the use of grant funds from the State Revolving Fund shall be based on competitive construction bids.

(b) An applicant's request for a change in the amount of funding specified in the funding agreement shall be limited to one occasion and shall be based solely on the final accepted construction bid(s).

ARTICLE 7. CLAIMS AND LOAN REPAYMENTS

§63055. Submission of Claims for Reimbursement.

(a) No claims for reimbursement shall be submitted prior to execution of the funding agreement. Claims shall be submitted only for reimbursement of costs already incurred.

(b) Claims submitted by loan recipients shall be made using a claim form [DWR - 4277 (New 2/99) which is incorporated by reference] provided by the Department of Water Resources and shall be submitted no more frequently than monthly.

(c) No claims shall be submitted for costs incurred after completion of the project.

(d) No claims for local match projects shall be reimbursed until the applicant's local share has been received and deposited into the State Revolving Fund account.

§63056. Loan Repayments.

(a) Loan repayments shall be made in accordance with the schedule set forth in the funding agreement.

(b) A penalty of one-tenth of one percent per day (not compounded) on the payment amount due shall be assessed for late payments.

§63057. Records.

(a) All applicant records and documents relating to the loan shall be maintained by the loan recipient until such time that the loan has been fully repaid.

(b) All applicant records and documents pertaining to the loan shall be available for inspection and audit by the Department or the USEPA during normal business hours.

CHAPTER 13. OPERATOR CERTIFICATION

ARTICLE 1. DEFINITIONS

§63750.10. Accredited Academic Institution.

“Accredited academic institution” means an academic institution accredited by the Western Association of Schools and Colleges or an accrediting organization recognized by the Council of Post Secondary Education.

§63750.15. Certificate.

“Certificate” means a certificate of competency issued by the Department stating that the operator has met the requirements for a specific operator classification of the certification program.

§63750.20. Certified Distribution Operator.

"Certified distribution operator" means a distribution operator who possesses a valid certificate issued pursuant to this chapter.

§63750.25. Chief Operator.

"Chief operator" means the person who has overall responsibility for the day-to-day, hands-on, operation of a water treatment facility or the person who has overall responsibility for the day-to-day, hands-on, operation of a distribution system.

§63750.30. Comprehensive Operator Training Program.

"Comprehensive Operator Training Program" means an on-the-job training program that allows an operator to gain proficiency in all systems and processes related to a water treatment facility.

§63750.35. Contact Hour.

"Contact hour" means not less than 50 minutes of specialized training or a continuing education course.

§63750.40. Continuing Education Course.

"Continuing education course" means a presentation that transmits information related to the operation of a treatment facility and/or distribution system.

§63750.45. Distribution Operator.

"Distribution operator" means any person who maintains or operates any portion of a distribution system.

§63750.50. Distribution System.

"Distribution system" means any combination of pipes, tanks, pumps, etc., which delivers drinking water from a source or treatment facility to the consumer and includes:

(a) Disinfection facilities for which no *Giardia* or virus reduction is required pursuant to §64654 (a).

(b) The composite of all distribution systems of a public water system.

§63750.55. GED.

"GED" means a general equivalency diploma.

§63750.60. Interim Distribution Operator Certificate.

"Interim Distribution Operator Certificate" means a certificate issued by the Department pursuant to §63810.

§63750.65. Operator Experience.

"Operator experience" means the daily performance of activities consisting of the control or oversight of any process or operation at a water treatment facility or in a distribution system that may affect the quality or quantity of water.

§63750.70. Shift Operator.

“Shift operator” means a person in direct charge of the operation of a water treatment facility or distribution system for a specified period of the day.

§63750.75. Specialized Training.

“Specialized training” means college level courses providing at least 36 contact hours of training each in drinking water or waste water quality, drinking water or waste water treatment, drinking water distribution, or drinking water or waste water facility operation, offered by an accredited academic institution or an organization either accredited by the International Association of Continuing Education Training (IACET) or an authorized provider of IACET, or courses completed and deemed acceptable by the Department prior to January 1, 2001 for the purpose of operator certification.

§63750.85. Water treatment facility.

“Water treatment facility” means a group or assemblage of structures, equipment, and processes that treat or condition a water supply, affecting the physical, chemical, or bacteriological quality of water distributed or otherwise offered to the public for domestic use by a public water system as defined in Health and Safety Code §116275. Facilities consisting of only disinfection for which no *Giardia* or virus reduction is required pursuant to §64654(a) and which are under the control of a certified distribution operator are not included as water treatment facilities.

ARTICLE 2. OPERATOR CERTIFICATION GRADES

§63765. Water Treatment Facility Staff Certification Requirements.

- (a) Except as provided in (c), chief and shift operators shall possess valid operator certificates pursuant to Table 63765-A.

TABLE 63765-A

Minimum Certification Requirements for Chief and Shift Operators

<i>Treatment Facility Classification</i>	<i>Minimum Certification of Chief Operator</i>	<i>Minimum Certification of Shift Operator</i>
T1	T1	T1
T2	T2	T1
T3	T3	T2
T4	T4	T3
T5	T5	T3

- (b) Treatment operators not designated by the water supplier as chief or shift operator pursuant to §64413.5 shall be certified but may hold certificates of any grade.

(c) Until January 1, 2003, a shift and/or chief operator may continue to be employed in that capacity provided that the operator:

- (1) Is in compliance with the certification requirements that were in effect on December 31, 2000, and
- (2) Has been in continuous employment since December 31, 2000 in a water treatment facility that has not modified its treatment process resulting in a change in classification.

(d) Operators who possessed treatment operator certificates valid as of December 31, 2000 shall be deemed to hold certificates pursuant to Table 63765-B.

TABLE 63765-B
Certificate Grade Equivalents

<i>Operator Certification Grades December 31, 2000</i>	<i>Operator Certification Grades January 1, 2001</i>
I	T1
II	T2
III	T3
IV	T4
V	T5

§63770. Distribution System Staff Certification Requirements.

(a) Chief and shift operators shall possess valid operator certificates pursuant to Table 63770-A.

Table 63770-A
Minimum Certification Requirements for Chief and Shift Operators

<i>Distribution System Classification</i>	<i>Minimum Certification of Chief Operator</i>	<i>Minimum Certification of Shift Operator</i>
D1	D1	D1
D2	D2	D1
D3	D3	D2
D4	D4	D3
D5	D5	D3

(b) Water systems shall utilize only certified distribution operators to make decisions addressing the following operational activities:

- (1) Install, tap, re-line, disinfect, test and connect water mains and appurtenances.
- (2) Shutdown, repair, disinfect and test broken water mains.
- (3) Oversee the flushing, cleaning, and pigging of existing water mains.
- (4) Pull, reset, rehabilitate, disinfect and test domestic water wells.
- (5) Stand-by emergency response duties for after hours distribution system operational emergencies.
- (6) Drain, clean, disinfect, and maintain distribution reservoirs.

(c) Water systems shall utilize either certified distribution operators or treatment operators that have been trained to make decisions addressing the following operational activities:

- (1) Operate pumps and related flow and pressure control and storage facilities manually or by using a system control and data acquisition (SCADA) system.

(2) Maintain and/or adjust system flow and pressure requirements, control flows to meet consumer demands including fire flow demands and minimum pressure requirements.

(d) Water systems shall utilize either certified distribution operators or treatment operators to make decisions addressing the following operational activities:

(1) Determine and control proper chemical dosage rates for wellhead disinfection and distribution residual maintenance.

(2) Investigate water quality problems in the distribution system.

ARTICLE 3. OPERATOR EXAMINATION CRITERIA AND APPLICATIONS
§63775. Eligibility Criteria for Taking a Water Treatment Operator Examination.

(a) An applicant who has had a certificate revoked, and not reinstated, for any reason other than failure to meet renewal requirements pursuant to §63840 shall not be eligible for water treatment operator examination at any grade level.

(b) In order to be eligible for taking the T1 operator exam, an applicant shall have a high school diploma or GED. The following experience and/or training may be substituted for a high school diploma or GED:

(1) Successful completion of the “Basic Small Water System Operations” course provided by the Department, or

(2) One year as an operator of a facility that required an understanding of chemical feeds, hydraulic systems, and pumps.

(c) In order to be eligible for taking the T2 operator exam, an applicant shall have:

(1) A high school diploma or GED. The following experience and/or training may be substituted for a high school diploma or GED:

(A) Successful completion of the “Basic Small Water System Operations” course provided by the Department, or

(B) One year as an operator of a facility that required an understanding of chemical feeds, hydraulic systems, and pumps.

(2) Successfully completed at least one course of specialized training covering the fundamentals of drinking water treatment.

(d) In order to be eligible for taking the T3 operator exam, an applicant shall have:

(1) A high school diploma or GED.

(2) Successfully completed a total of at least two courses of specialized training that includes at least one course covering the fundamentals of drinking water treatment.

(e) In order to be eligible for taking the T4 operator exam, an applicant shall have:

(1) A valid Grade T3 operator certificate.

(2) Successfully completed at least three courses of specialized training that includes at least two courses in drinking water treatment.

(f) In order to be eligible for taking the T5 operator exam, an applicant shall have:

(1) A valid Grade T4 operator certificate.

(2) Successfully completed at least four courses of specialized training that includes at least two courses in drinking water treatment.

(g) Specialized training courses used to fulfill the requirements of this Section may also be used to fulfill the requirements of §63780.

§63780. Eligibility Criteria for Taking a Distribution Operator Examination.

(a) An applicant who has had a certificate revoked, and not reinstated, for any reason other than failure to meet renewal requirements pursuant to §63840 shall not be eligible for distribution operator examination at any grade level.

(b) In order to be eligible for taking the D1 operator exam, an applicant shall have a high school diploma or GED. The following experience and/or training may be substituted for a high school diploma or GED:

(1) Successful completion of the “Basic Small Water System Operations” course provided by the Department, or

(2) One year as an operator of a facility that required an understanding of a piping system that included pumps, valves, and storage tanks.

(c) In order to be eligible for taking the D2 operator exam, an applicant shall have:

(1) A high school diploma or GED. The following experience and/or training may be substituted for a high school diploma or GED:

(A) Successful completion of the “Basic Small Water System Operations” course provided by the Department, or

(B) One year as an operator of a facility that required an understanding of a piping system that included pumps, valves, and storage tanks.

(2) Successfully completed a total of at least one course of specialized training in water supply principles.

(d) In order to be eligible for taking the D3 operator exam, an applicant shall have:

(1) A valid Grade D2 or interim Grade D3 or higher operator certificate.

(2) Successfully completed a total of at least two courses of specialized training that includes at least one course in water supply principles.

(e) In order to be eligible for taking the D4 operator exam, an applicant shall have:

(1) A valid Grade D3 or interim Grade D4 or higher operator certificate.

(2) Successfully completed at least three courses of specialized training that includes at least two courses in water supply principles.

(f) In order to be eligible for taking the D5 operator exam, an applicant shall have:

(1) A valid Grade D4 or interim Grade D5 operator certificate.

(2) Successfully completed at least four courses of specialized training that includes at least two courses in water supply principles.

(g) Specialized training courses used to fulfill the requirements of this § may also be used to fulfill the requirements of §63775.

§63785. Examination Application Content and Submittal.

(a) A complete application for examination shall include the following information:

(1) The applicant's full name, social security number (pursuant to the authority found in §100275 and 106910 of the Health and Safety Code and as required by §17520 of the Family Code, providing the social security number is mandatory. The social security number will be used for purposes of identification), date of birth, certificate number of any operator certificates ever held, mailing address, work telephone number, and home telephone number.

(2) The date of the examination for which the applicant is applying.

(3) The examination fee, pursuant to §63850.

(4) For T1, T2, D1, and D2 applicants one of the following:

(A) A copy of the applicant's high school diploma or the name and location of the high school and date of graduation; or

(B) A copy of the applicant's GED; or

(C) A certificate of completion for the "Basic Small Water System Operations" course provided by the Department; or

(D) The name, address, and phone number of each employer, the length of time employed, and the nature of the work performed that satisfies the requirements of §63775(b)(2) or (c)(1)(B) or 63780(b)(2) or (c)(1)(B).

(5) For T3 and D3 applicants, a copy of the applicant's high school diploma, or the name and location of the high school and date of graduation, or a copy of the applicant's GED.

(6) Copies of transcripts or certificates of completion of specialized training courses, as provided by the educational institution, claimed to meet the requirements of §63775 or 63780.

§63790. Examination Scheduling and Application Processing.

(a) For admission to an examination, the completed application shall be postmarked by the final filing date established by the Department.

(b) Each applicant for examination shall be notified of the Department's decision regarding compliance with the minimum requirements to take the examination set forth in §63775 or §63780 within 75 days after the receipt of a complete application. If the Department determines that the application does not meet the requirements, the notice shall include the reasons for the disqualification. If the Department determines that the application does meet the requirements the notice shall include the date of the examination for which they have been accepted.

(c) Examinees shall present their driver's license, photo identification (ID) card issued by the Department of Motor Vehicles, or passport upon entry to the exam.

§63795. Examination Application Resubmittals and Reexaminations.

(a) Applications for examination that the Department determines are incomplete pursuant to §63785 or do not meet the qualification requirements pursuant to §63775 or 63780 may be amended within 12 months of the original submittal date for reconsideration without payment of an additional examination fee.

(b) Examinees may apply to retake the exam provided they submit an application that includes the following:

(1) Applicant name, social security number (pursuant to the authority found in §100275 and 106910 of the Health and Safety Code and as required by §17520 of the Family Code, providing the social security number is mandatory. The social security number will be used for purposes of identification), current mailing address, grade for which applying, certificate number if currently certified, date of original application, and date of most recent exam taken.

(2) Payment of the reexamination fee pursuant to §63850.

ARTICLE 4. OPERATOR CERTIFICATION CRITERIA AND APPLICATIONS
§63800. Eligibility Criteria for Water Treatment Operator Certification.

(a) In order to be eligible for certification as a T1 operator, an applicant shall have passed a Grade T1 operator examination within the three years prior to submitting the application for certification.

(b) In order to be eligible for certification as a T2 operator, an applicant shall have passed a Grade T2 or T3 operator certificate examination within the three years prior to submitting the application for certification.

(c) In order to be eligible for certification as a T3 operator, an applicant shall have passed a Grade T3 operator examination within the three years prior to submitting the application for certification, and shall have completed the following:

(1) At least one year of operator experience working as a certified T2 operator for a T2 facility or higher, or a facility that, prior to January 1, 2001, would have met the criteria for classification as a T2 facility or higher pursuant to §64413.1.

(2) At least one additional year of operator experience working as a certified treatment operator.

(d) In order to be eligible for certification as a T4 operator, an applicant shall have passed a Grade T4 operator examination within the three years prior to submitting the application for certification, and shall have completed the following:

(1) At least one year of operator experience working as a shift or chief operator, while holding a valid T3 operator certificate, at a T3 facility or higher, or a facility that, prior to January 1, 2001, would have met the criteria for classification as a T3 facility or higher pursuant to §64413.1, and

(2) At least three additional years of operator experience working as a certified treatment operator.

(e) In order to be eligible for certification as a T5 operator, an applicant shall have passed a Grade T5 operator examination within the three years prior to submitting the application for certification, and shall have completed the following:

(1) At least two years of operator experience working as a shift or chief operator, while holding a valid T4 operator certificate, at a T4 facility or higher, or a facility that, prior to January 1, 2001, would have met the criteria for classification as a T4 facility or higher pursuant to §64413.1, and

(2) At least three additional years of operator experience working as a certified treatment operator.

(f) A degree earned at an accredited academic institution may be used to fulfill experience requirements in (c)(2), (d)(2), and (e)(2) as follows:

(1) An Associate degree or certificate in water or wastewater technology that includes at least 15 units of physical, chemical, or biological science may be used to fulfill 1 year of operator experience.

(2) A Bachelors degree in engineering or in physical, chemical, or biological sciences may be used to fulfill 1.5 years of operator experience.

(3) A Masters degree in engineering or in physical, chemical, or biological sciences may be used to fulfill 2 years of operator experience.

(g) A certified operator may substitute on a day-for-day basis the experience requirements in (c)(2) with experience gained while working with lead responsibility for water quality related projects or research.

(h) If the applicant has a bachelor of science or a master of science degree, completion of a comprehensive operator training program may be used to fulfill the operator experience requirements in (c)(1) and (d)(1). Completion of the training shall be verified in writing by the chief operator. The comprehensive operator training program shall be at least 6 months in duration and shall cover the following elements:

(1) California Safe Drinking Water Act and regulations promulgated pursuant thereto.

(2) Water treatment calculations.

(3) SCADA operation.

(4) Handling of laboratory chemicals used for drinking water analyses.

(5) Laboratory analyses conducted by operators.

(6) Safety training.

(7) Distribution system operation.

(8) Treatment chemical dosing and monitoring.

(9) Disinfectant dosing and monitoring.

(10) Treatment processes and controls.

(i) Experience gained as a certified waste water treatment plant operator, pursuant to California Water Code §13625 through 13633, may be used to fulfill up to two years of the operator experience requirements in (c)(2), (d)(2), and (e)(2). Each two months of experience as a waste water treatment plant operator shall be considered equivalent to one month of water treatment facility operator experience.

§63805. Eligibility Criteria for Distribution Operator Certification.

(a) In order to be eligible for certification as a D1 operator, an applicant shall have passed a Grade D1 operator examination within the three years prior to submitting the application for certification.

(b) In order to be eligible for certification as a D2 operator, an applicant shall have passed a Grade D2 operator examination within the three years prior to submitting the application for certification.

(c) In order to be eligible for certification as a D3 operator, an applicant shall have passed a Grade D3 operator examination within the three years prior to submitting the application for certification, and shall have completed the following:

(1) At least one year of operator experience working as a certified D2 operator, interim D3 or higher operator, or temporary D3 operator for a D2 system or higher, or a system that, prior to January 1, 2001, would have met the criteria for classification as a D2 system or higher pursuant to §64413.3.

(2) At least one additional year of operator experience working as a distribution operator.

(d) In order to be eligible for certification as a D4 operator, an applicant shall have passed a Grade D4 operator examination within the three years prior to submitting the application for certification, and shall have completed the following:

(1) At least one year of operator experience working as a certified D3, interim D4 or higher operator, or temporary D4 operator for a D3 system or higher, or a system that, prior to January 1, 2001, would have met the criteria for classification as a D3 facility or higher pursuant to §64413.3, and

(2) At least three additional years of operator experience working as a distribution operator.

(e) In order to be eligible for certification as a D5 operator, an applicant shall have passed a Grade D5 operator examination within the three years prior to submitting the application for certification, and shall have completed the following:

(1) At least two years of operator experience working as a certified D4, interim D5 operator, or temporary D5 operator for a D4 or D5 system, or a system that, prior to January 1, 2001, would have met the criteria for classification as a D4 or D5 system pursuant to §64413.3, and

(2) At least three additional years of operator experience working as a distribution operator.

(f) A degree earned at an accredited academic institution may be used to fulfill experience requirements in (c)(2), (d)(2), and (e)(2) as follows:

(1) An Associate degree, or certificate, in water or wastewater technology or distribution that includes at least 15 units of physical, chemical, or biological science may be used to fulfill 1 year of operator experience.

(2) A Bachelors degree in engineering or in physical, chemical, or biological sciences may be used to fulfill 1.5 years of operator experience.

(3) A Masters degree in engineering or in physical, chemical, or biological sciences may be used to fulfill 2 years of operator experience.

(g) A certified operator may substitute on a day-for-day basis the experience requirements in (c)(2) with experience gained while working with lead responsibility for water quality or quantity related projects or research.

§63810. Interim Certification of Distribution Operators.

(a) A distribution operator in a position responsible for making decisions identified in §63770 (b), (c), or (d) on December 31, 2000, shall be eligible for interim certification provided that the employing water supplier, as defined in §64402.20, submits an application which shall include for each employee:

(1) The employee's full name, social security number (pursuant to the authority found in §100275 and 106910 of the Health and Safety Code and as required by §17520 of the Family Code, providing the social security number is mandatory. The social security number will be used for purposes of identification), date of birth, certificate number of any operator certificates ever held, mailing address, work telephone number, and home telephone number.

(2) The grade at which the operator will be certified.

(3) The certification fee specified in Table 63850-C.

(b) Interim distribution operator certificates shall be effective as of January 1, 2001, and shall expire on January 1, 2004. Such certificates may be renewed only once for an additional 3 years and only if the water system has not received any notice of violation, citation, or order from the Department or EPA since January 1, 2001, unless the public water system can demonstrate to the satisfaction of the Department that the violation was not the result of actions taken or not taken by the operator(s). After January 1, 2007, all interim operator certificates shall be invalid.

(c) In order to renew an interim certificate, a water supplier shall submit a renewal application between July 1, 2003 and September 1, 2003. The renewal application shall include the following:

(1) The operator's name, social security number (pursuant to the authority found in §100275 and 106910 of the Health and Safety Code and as required by §17520 of the Family Code, providing the social security number is mandatory. The social security number will be used for purposes of identification), current mailing address, certificate grade, and certificate number.

(2) Payment of the renewal fee specified in §63850(e).

(3) Documentation of continuing education contact hours as required by §63840.

§63815. CNAWWA Distribution Operator Certification.

(a) Distribution operators holding a valid California-Nevada section of the American Water Works Association (CNAWWA) distribution operator certificate on December 31, 2000, shall be deemed to have a distribution operator certification valid through December 31, 2001, pursuant to Table 63815-A.

Table 63815-A.

CNAWWA - California State Operator Grade Equivalents

<i>CNAWWA Grade</i>	<i>California State Grade</i>
1	D2
2	D3
3	D4
4	D5

(b) In order to renew a certification deemed valid pursuant to subsection(a), an operator shall submit a renewal application by September 1, 2001.

(c) The renewal application shall include the following:

(1) The applicant's name, social security number (pursuant to the authority found in §100275 and 106910 of the Health and Safety Code and as required by §17520 of the Family Code, providing the social security number is mandatory. The social security number will be used for purposes of identification), date of birth, current mailing address, work telephone number, home telephone number, certificate number of any operator certificates ever held, CNAWWA grade, and a copy of the CNAWWA certificate.

(2) Payment of the appropriate renewal fee specified in §63850(f).

(d) The initial renewal of a certificate deemed valid pursuant to subsection(a) shall be valid for a two-year period.

§63820. Temporary Distribution Operator Certification.

(a) Distribution operators who have received notice of qualification for examination shall be deemed to have a temporary distribution operator certification at the grade for which they have been qualified for examination. All temporary certifications will expire January 1, 2004 and shall not be renewable.

§63825. Restricted Operator Certification.

(a) A T1, T2, D1, or D2 restricted operator certificate may be issued without a written examination if the following conditions are met:

(1) The water supplier, as defined in §64402.20, serves a disadvantaged community as defined in §63000.25; and

(2) The Department has issued a citation or order to the water supplier for noncompliance with §64413.5 or 64413.7, or Health and Safety Code §116555(a)(4), (5), or (b); and

(3) The water supplier submits an application pursuant to §63830 and pays the application and examination fee specified in §63850; and

(4) The operator meets the criteria for taking the T1, T2, D1, or D2 exam and passes a performance test administered by the Department that measures his or her knowledge and ability to operate the specific treatment facility and/or distribution system without jeopardizing public health or safety.

(b) The restricted operator certificate shall be valid for three years. The certificate may be renewed if the water supplier continues to serve a disadvantaged community and submits an application pursuant to §63840 and the operator has met the continuing education requirements as specified in sub§63840(c).

(c) The restricted operator certificate is not transferable.

§63830. Certification Application Content and Submittal.

(a) A complete application for operator certification shall contain the following:

(1) The applicant's full name, social security number (pursuant to the authority found in §100275 and 106910 of the Health and Safety Code and as required by §17520 of the Family Code, providing the social security number is mandatory. The social security number will be used for purposes of identification), date of birth, certificate number of any operator certificates ever held, mailing address, work telephone number, and home telephone number.

(2) Payment of certification fee pursuant to §63850.

(3) For any experience being claimed to meet the experience requirements in §63800 or 63805, the name, address, and phone number of each employer, the length of time employed, and the nature of the work performed.

(4) Employer verification of the experience being claimed in paragraph (3) with the signature of the chief operator or supervisor of each employer.

(5) Copies of college transcripts if claiming any of the credits pursuant to §63800(f), 63800(h) and 63805(f).

(6) Copies of transcripts or certificates of completion of specialized training courses claimed to meet minimum requirements.

§63835. Certification and Renewal Application Processing.

(a) Each applicant submitting an application or reapplication for certification or renewal shall be notified of the Department's decision regarding compliance with the requirements set forth in §§ 63800, 63805, 63830, or 63840 within 75 days after the receipt of the application or reapplication. If the Department determines that the application or reapplication does not meet the requirements, the applicant shall be notified of the reasons for the disqualification.

(b) Applications for certification that the Department determines do not meet the requirements may reapply within 12 months of the original submittal date without payment of an additional certification or renewal fee.

(c) The Department's median, minimum, and maximum processing times for applications for operator certification are as follows:

Median -- 25 calendar days
Minimum -- 5 calendar days
Maximum -- 60 calendar days

ARTICLE 5. CERTIFICATION RENEWALS, DELINQUENT RENEWALS AND FEES

§63840. Certification Renewals.

(a) All certified operators shall notify the Department within 60 days of any change in address or name during the period of their certification.

(b) Any person wishing to maintain a valid operator certificate shall submit an application for renewal at least 120 days, but no more than 180 days, prior to expiration of the certification. The following items constitute a complete application for renewal:

(1) The applicant's name, social security number (pursuant to the authority found in §100275 and 106910 of the Health and Safety Code and as required by §17520 of the Family

Code, providing the social security number is mandatory. The social security number will be used for purposes of identification), current mailing address, grade, and certificate number.

(2) Payment of the renewal fee specified in §63850(c), (d), (e), or (f).

(3) A list of successfully completed continuing education courses as required by subsection(c). The following information shall be provided for each course:

- (A) Title,
- (B) name of the instructor,
- (C) location,
- (D) date(s), and
- (E) number of contact hours.

(c) To be eligible for certificate renewal, certified operators possessing certificates that expire after December 31, 2003, shall have completed continuing education contact hours since the previous renewal or issuance of the certificate pursuant to Table 63840-A. No more than 25% of the contact hours shall be courses in operator safety.

Table 63840-A.

Required Continuing Education Contact Hours for Certificate Renewal

<i>Water Treatment Operators</i>	<i>Contact Hours Required</i>
Grade T1	12
Grade T2	16
Grade T3	24
Grade T4	36
Grade T5	36
<i>Distribution Operators</i>	
Grade D1	12
Grade D2	16
Grade D3	24
Grade D4	36
Grade D5	36

(1) Operators possessing both distribution and treatment certificates may apply continuing education credits to both certificates.

(2) Specialized training that is used to satisfy the requirements of §63775 or 63780 may be used to satisfy the continuing education requirements of Table 63840-A if obtained since the previous renewal or issuance of the certificate.

(d) Except as provided in §63815, each certificate renewed pursuant to (b) shall be valid for a period of three years.

§63845. Reinstatement.

(a) A certificate that has been revoked only for lack of payment may be reinstated within 1 year if all fees and penalties specified in §63850 are paid and the renewal application is complete.

(b) A certificate that has been revoked for failure to complete the continuing education contact hours required in Table 63840-A may be reinstated within six months if all requirements specified in Table 63840-A are met and penalties specified in §63850 are paid and the renewal application is complete. Contact hours obtained for reinstatement shall not be used to satisfy the requirements of the next renewal period.

(c) A certificate that has been revoked for more than one year shall not be renewed.

(d) The expiration date of a certificate that has been renewed pursuant to this section shall remain the same as if the previous certificate had been renewed prior to the expiration date.

§63850. Fees.

(a) Except as provided in subsection(e), payment of the fees specified in this § shall be made by a separate check or money order for each operator. The operator's name, and in the case of renewals, the operator's certificate number, shall be written on the check or money order.

(b) All fees submitted to the Department pursuant to this § are nonrefundable.

(c) Operator fees shall be pursuant to Table 63850-A.

Table 63850-A.
Operator Fee Schedule

<i>Grade</i>	<i>Examination Fee (\$)</i>	<i>Reexamination Fee (\$)</i>	<i>Certification Fee (\$)</i>	<i>Triennial Renewal Fee (\$)</i>
D1 or T1	50	30	70	70
D2 or T2	65	45	80	80
D3 or T3	100	70	120	120
D4 or T4	130	95	140	140
D5 or T5	155	120	140	140

(d) Operators who are certified or have been notified by the Department that they have met requirements for certification as both treatment and distribution operators shall pay the certification and renewal fees specified in Table 63850-B for each certificate.

Table 63850-B.
Fee Schedule for Operators With Multiple Certificates

<i>Grade</i>	<i>Certification Fee (\$) per Certificate</i>	<i>Triennial Renewal Fee (\$) per Certificate</i>
D1 or T1	55	55
D2 or T2	60	60
D3 or T3	90	90
D4 or T4	105	105
D5 or T5	105	105

(e) The fee schedule for interim distribution operator certification is in Table 63850-C. The fees specified in this subsection may be paid by a single check or money order for all operators included in the application.

Table 63850-C.
Interim Operator Fee Schedule

<i>Grade</i>	<i>Certification Fee (\$)</i>	<i>Triennial Renewal Fee (\$)</i>
D1	70	70
D2	80	80
D3	120	120
D4	140	140
D5	140	140

(f) The fee schedule for distribution operators holding valid CNAWWA certificates pursuant to 63850(b) is in Table 63850-D.

Table 63850-D.
CNAWWA Certification Fees

<i>CNAWWA Grade</i>	<i>Biennial Renewal Fee Due in 2001 – valid for two years</i>
1	80
2	100
3	120
4	120

(g) A penalty fee of \$50 shall be paid for renewals submitted or resubmitted after the renewal due date but at least 45 days prior to the expiration date. A penalty fee of \$100 shall be paid for renewals submitted or resubmitted less than 45 days prior to the expiration date but within 1 year after the expiration date.

(h) A certificate replacement fee of \$25 shall be paid by any certificate holder requesting to have a lost, stolen, or destroyed certificate replaced.

CHAPTER 14. WATER PERMITS

ARTICLE 1. APPLICATIONS

§64001. Water Permit Application.

(a) Within 30 calendar days of receipt of an application for a permit or petition for permit modification pursuant to Section 4011¹³ or 4019¹⁴, Health and Safety Code, the Department shall inform the applicant in writing that it is either complete and accepted for filing or that it is

¹³ Section 4011 has been recodified to 116525. OAL has been notified of this by request for a “change without regulatory effect”.

¹⁴ Section 4019 has been recodified to 116550. OAL has been notified of this by request for a “change without regulatory effect”.

deficient and what specific information or documentation is required to complete the application. An application is considered complete if it is in compliance with the requirements of Section 4012¹⁵, Health and Safety Code. For proposed water system improvements, new water systems or a “project” as defined in Section 15378, Title 14, California Administrative Code where environmental documentation is required, a copy of such documentation shall be included in the application.

(b) Within 90 calendar days from the date of filing of a completed application, the Department shall inform the applicant in writing of its decision regarding an application.

§64002. Processing Time.

The Department's time periods for processing an application from the receipt of the initial application to the final decision regarding issuance or denial of a water permit based on the Department's actual performance during the two years preceding the proposal of this section, were as follows:

- (a) The median time was--7.5 months
- (b) The minimum time was--1.5 months
- (c) The maximum time was--85.5 months

§64197. Service Connection Fee.

(a) Each public water system serving at least 200 service connections shall pay to the Department a one time fee of fifty cents (\$0.50) for each service connection it serves. The fee shall be submitted to the Department no later than April 30, 1991.

(b) The fee shall be based on the number of service connections previously reported to the Department for the calendar year 1989.

ARTICLE 3. STATE SMALL WATER SYSTEMS

§64211. Permit Requirement.

(a) No person shall operate a state small water system unless a permit to operate the system has been issued by the local health officer. Within 30 calendar days of receipt of an application for a permit, the local health officer shall inform the applicant in writing that the application is either complete and accepted for filing or that it is deficient and what specific information or documentation is required to complete the application.

(b) The state small water system shall submit a technical report to the local health officer as part of the permit application. The report shall describe the proposed or existing system as follows: service area, distribution system including storage and pumping facilities, the water source including source capacity, water quality, and any water treatment facilities. The report shall identify the owner of the system and the party responsible for day to day operation of the system. The report shall include a plan for notification of those served by the system under

¹⁵ Section 4012 has been recodified to 116530. OAL has been notified of this by request for a “change without regulatory effect”.

emergency conditions. The report shall describe the operating plan for the system and shall specify how the responsible party will respond to failure of major system components.

(c) Within 90 calendar days from the date of filing of a completed application, the local health officer shall inform the applicant in writing of its decision regarding an application.

(d) A change in ownership of a state small water system shall require the submission of a new application.

(e) By July 1, 1992, each state small water system in existence on January 1, 1992, shall submit to the local health officer a plan for notification of those served by the system under emergency conditions.

(f) Each state small water system shall provide the following notice to the consumers served by the state small water system: “The domestic water supply for this area is provided by a state small water system. State regulatory requirements for operation of a state small water system are less extensive than requirements for larger public water systems. If you have questions concerning your water supply, you should contact [insert (1) name of water system, (2) name of responsible person, and (3) telephone number] or your local health department.” This notice shall be by direct delivery on an annual basis or by continuous posting at a central location within the area served by the state small water system.

§64212. Bacteriological Quality Monitoring.

(a) Each water supplier operating a state small water system shall collect a minimum of one routine sample from the distribution system at least once every three months. The sample shall be analyzed for the presence of total coliform bacteria by a laboratory certified by the Department for bacteriological analyses pursuant to Section 4025¹⁶ of the Health and Safety Code. The results of the analyses shall be reported to the local health officer no later than the 10th day of the month following receipt of the results by the state small water system.

(b) If any routine sample is total coliform-positive, the water supplier shall collect a repeat sample from the same location within 48 hours of being notified of the positive result. If the repeat sample is also total coliform-positive, the sample shall also be analyzed for the presence of fecal coliforms or *Escherichia coli* (E. Coli). The water supplier shall notify the local health officer within 48 hours from the time the results are received and shall take corrective actions as directed by the local health officer to eliminate the cause of the positive samples.

(c) The local health office may require a state small water system to sample the distribution system each month, in lieu of the requirements of subsection (a), if the system has bacteriological contamination problems indicated by more than one total-coliform positive sample during the most recent 24 months of operation. The monthly sample shall be analyzed for the presence of total coliform bacteria by a laboratory certified by the Department for

¹⁶ Section 4025 has been recodified to 116390. OAL has been notified of this by request for a “change without regulatory effect”.

bacteriological analyses pursuant to Section 4025¹⁷ of the Health and Safety Code. The results of the analyses shall be reported to the local health officer no later than the 10th day of the month following receipt of the results by the state small water system.

§64213. Chemical Quality Monitoring.

(a) Each water supplier operating a state small water system shall sample each source of supply prior to any treatment at least once. The sample shall be analyzed by a laboratory, certified by the Department pursuant to Section 4025¹⁷ of the Health and Safety Code, for fluoride, iron, manganese, chlorides, total dissolved solids, and the inorganic chemicals listed in Table 64431-A, Section 64431(a).

(b) Each groundwater source which has been designated as vulnerable by the local health officer pursuant to criteria set forth in Sections 64445(d)(1) and (2) shall be sampled by the water supplier operating the state small water system at least once prior to any treatment and analyzed for volatile organic compounds according to Environmental Protection Agency Method 502.2, “Methods for the Determination of Organic Compounds in Finished Drinking Water and Raw Source Water,” September 1986. The analysis shall be performed by a laboratory certified by the Department to perform Method 502.2 analyses for organic chemicals pursuant to Section 4025¹⁷ of the Health and Safety Code.

(c) The results of the laboratory analyses shall be submitted to the local health officer by the state small water system no later than the 10th day of the month following receipt of the results by the state small water system. A copy of the results of the analyses and a comparison of the results with the maximum contaminant levels for those contaminants listed in Table 64431-A and B, Section 64431(a) and Table 64444-A, Section 64444 shall be distributed by the state small water system to each regular user of the water system within 90 days of receiving the results. A copy of the distribution notice shall be provided to the local health officer.

(d) The water supplier operating a state small water system shall comply with any corrective actions ordered by the local health officer for any chemical contaminant which exceeds the maximum contaminant level.

§64214. Service Connection Limitation.

No state small water system shall add additional service connections to the system such that the total number of service connections served by the system exceeds 14 before the water system has applied for and received a permit to operate as a public water system from the Department.

§64215. Water Supply Requirements.

Prior to receiving permit approval, a state small water system which was not in existence on November 12, 1991 shall demonstrate to the local health officer that sufficient water is available from the water system's sources and distribution storage facilities to supply a minimum of three gallons per minute for at least 24 hours for each service connection served by the system.

§64216. Mutual Associations Prohibited.

¹⁷ Section 4025 has been recodified to 116390. OAL has been notified of this by request for a “change without regulatory effect”.

No state small water system which was not in existence on November 12, 1991 shall be issued a permit to operate if the water supplier is an unincorporated association organized under Title 3 (commencing with Section 20000) of Division 3 of the Corporations Code.

§64217. Surface Water Treatment Requirement.

All state small water systems using surface water as a source of supply shall provide continuous disinfection treatment of the water prior to entry to the distribution system.

ARTICLE 4. LOCAL PRIMACY DELEGATION

§64251. Definitions.

(a) For the purpose of this Article the following definitions shall apply:

(1) “Small Water System” means a community water system except those serving 200 or more service connections, or any noncommunity or nontransient noncommunity water system.

(2) “Primacy Delegation Agreement” means the document, issued by the department and signed by the local health officer, delegating primacy to a local health officer.

(3) “Routine Inspection” means an on-site review of a small water system which includes, but is not limited to, inspections of system operations, operation and maintenance records, system facilities and equipment.

(4) “Sanitary Survey” means an on-site review of a small water system which includes, in addition to the elements of a routine inspection, an evaluation of the watershed for surface water sources and vulnerability assessments for groundwater sources.

§64252. Primacy Delegation Application.

(a) The primacy delegation application submitted by a local health officer pursuant to section 116330 of the Health and Safety Code shall describe how the primacy requirements of this article will be complied with and shall contain the following information relating to the small water system program to be delegated:

(1) The number of staff persons, percentage of time and personnel classification of each staff person, and a description of the program responsibilities of each person involved in the small water system program.

(2) A proposed program budget projecting both revenues and expenditures for the first year of the program. The expenditures categories shall include personnel, general expense (i.e. rent, supplies and communications), travel, equipment, data management, any other specific services to be provided (e.g. laboratory), administrative overhead and other indirect charges. The anticipated revenues shall specify all planned sources of revenues to be used for support of the small water system program.

(3) A description of engineering and legal resources to be used in conducting the program.

(4) A description of the electronic data management system to be used to comply with the requirements of section 64256 (e) and the compatibility of the proposed system with the data management system used by the department.

(5) A description of the current status of compliance with Division 5, Part 1, Chapter 7; Division 104, Part 1, Chapters 4 and 5; Division 104, Part 12, Chapters 1 through 6 of the Health and Safety Code and California Code of Regulations, Title 22, Division 4 Chapters 15,

17, and 17.5 of the small water systems within the county. This description shall include the following:

(A) All violations of drinking water monitoring or reporting requirements by any of the systems during the 12 months preceding the submission of the application for primacy.

(B) All violations of standards of California Code of Regulations, Title 22, Division 4, Chapters 15, 17, and 17.5 during the 12 months preceding the submission of the application for primacy.

(C) All enforcement actions against small water systems taken by the county during the 12 months preceding the submission of the application for primacy.

(6) A current inventory list of the small water systems within the county. For each small water system the inventory list shall specify the system name, water system identification number, mailing address, type of system (community, nontransient noncommunity or noncommunity), name and address and phone number of the responsible party, type of ownership, type of water source, type of treatment if any, dates of operation for seasonally operated systems, and either:

(A) for a community water system, the number of service connections; or

(B) for a noncommunity or nontransient noncommunity water system, the average monthly population served.

(b) For applications submitted by March 1, 1993, the primacy application shall demonstrate that the local primacy program requirements specified in Article 4.1, sections 64253 through 64258 will be complied with by June 30, 1994. If these requirements cannot be fully complied with by June 30, 1994, the application shall set forth a priority implementation schedule for activities to be conducted such that the program requirements will be fully complied with by June 30, 1995.

(c) For applications submitted for fiscal years subsequent to the fiscal year 1993-94, the application shall demonstrate that the local primacy agency will be able to immediately undertake the activities specified as local primacy program requirements in section 64253 at the time of delegation.

(d) The application shall be signed by the local health officer or by a local official with the authority to submit the application on behalf of the county.

(e) Within 15 working days of receipt of an application for local primacy delegation the department shall inform the applicant in writing that the application is either complete and accepted for filing, or that it is deficient and what specific information or documentation is required to complete the application.

(f) Within 5 working days of being notified of deficiencies in its application the local health officer shall resubmit an application with the deficient items included or corrected.

(g) Within 15 working days of receipt of the resubmitted application the department shall determine that the application is complete or reject the application as incomplete and find that the local health officer is not capable of meeting the primacy program requirements.

(h) Within 20 working days of being notified that the application is complete the local health officer shall submit the annual workplan required pursuant to section 64260.

(i) Within 20 working days from the date the workplan is submitted the department shall inform the applicant in writing of its determination regarding the local health officer's capability of meeting the primacy program requirements.

§64253. Local Primacy Agency Minimum Program Requirements.

Each local primacy agency shall conduct a regulatory program for small water systems within its jurisdiction that complies with all of the requirements set forth in sections 64254, 64255, 64256, 64257, and 64258.

§64254. Permits.

(a) Each local primacy agency shall issue and maintain a valid drinking water permit for all small water systems within its jurisdiction in accordance with Sections 116525 through 116550 of the Health and Safety Code. The permit shall include terms and conditions, including compliance schedules, that are necessary to assure that water served will comply with Division 5, Part 1, Chapter 7; Division 104, Part 1, Chapters 4 and 5; Division 104, Part 12, Chapters 1 through 6 of the Health and Safety Code, and Title 22, Division 4, Chapters 15, 16, 17, and 17.5, and Title 17, Division 1, Chapter 5, Groups 2 and 4 of the California Code of Regulations.

(b) All existing permits shall be reviewed and updated as necessary at least every ten years.

(c) A copy of all permit applications for proposed new community water systems under the jurisdiction of the local primacy agency that are designed to serve 200 or more service connections shall be submitted to the department. The local primacy agency shall not issue a permit for these systems unless the department concurs that the systems are capable of complying with Division 5, Part 1, Chapter 7; Division 104, Part 1, Chapters 4 and 5; Division 104, Part 12, Chapters 1 through 6 of the Health and Safety Code, and Title 22, Division 4, Chapters 15, 16, 17, and 17.5, and Title 17, Division 1, Chapter 5, Groups 2 and 4 of the California Code of Regulations.

§64255. Surveillance.

(a) The local primacy agency shall establish and maintain an inventory of all small water systems under its jurisdiction. The inventory shall be updated at least annually and shall include the following information for each system:

(1) All of the information specified in section 64252(a)(6).

(2) The name and telephone number of the operator of any treatment facilities utilized by the system.

(3) A copy of the current emergency notification plan required pursuant to section 4029 of the Health and Safety Code.

(b) The local primacy agency shall conduct a routine inspection of each small water system within its jurisdiction as follows:

(1) At least once every two years on each small water system utilizing a surface water source as defined in section 4651.10.

(2) At least once every two years on each small water system utilizing groundwater that is treated in order to meet drinking water standards.

(3) At least once every five years on each small water system utilizing groundwater without treatment.

(c) Each local primacy agency shall conduct a sanitary survey of each small water system within its jurisdiction at least once every five years. A sanitary survey may be conducted in lieu of any routine inspection.

(d) The local primacy agency shall identify any deficiencies found during the routine inspection or sanitary survey and shall submit a follow-up notice to the small water system describing such deficiencies and prescribing a time schedule for corrective action. The notice shall be sent to the small water system within 60 days of the routine inspection or sanitary survey.

(e) The local primacy agency shall complete a routine inspection or sanitary survey report for each routine inspection or sanitary survey conducted within 90 days of completion of the sanitary survey or routine inspection.

(f) The local primacy agency shall determine which small water systems under its jurisdiction utilize surface water or groundwater under the direct influence of surface water and are subject to surface water treatment requirements as specified in section 64650.

§64256. Sampling and Monitoring.

(a) The local primacy agency shall notify each small water system under its jurisdiction in writing of the monitoring requirements for that system pursuant to Title 22, Division 4, Chapters 15, 17, and 17.5 of the California Code of Regulations. The notice shall identify the specific contaminants to be monitored, the type of laboratory analyses required for each contaminant, the frequency of sampling and any other sampling and reporting requirements applicable to that system.

(b) The local primacy agency shall ensure that each small water system under its jurisdiction complies with the sample siting plan requirements of section 64422.

(c) The local primacy agency shall establish a tracking system to assure that all required sampling and laboratory analyses are completed and reported by the small water systems pursuant to Title 22, Division 4, Chapters 15, 17, and 17.5 of the California Code of Regulations. The tracking system shall include the date the sample was collected, the type or purpose of the sample, and the laboratory result.

(d) An ongoing record of the status of compliance with monitoring and reporting requirements of California Code of Regulations, Title 22, Division 4, Chapters 15, 17, and 17.5 of each small water system shall be maintained by the local primacy agency.

(e) A system shall be established by the local primacy agency to assure that the water quality monitoring data submitted by the small water systems is routinely reviewed for compliance with the requirements of Title 22, Division 4, Chapters 15, 17, and 17.5 of the California Code of Regulations. The monitoring reports shall be reviewed each month for each small water system and the data entered into the data management system at least monthly.

§64257. Reporting.

(a) The following reports shall be submitted monthly in an electronic data format to the department no later than the last day of the month following the period being reported:

(1) A report listing all small water systems that failed during the previous month to comply with drinking water monitoring and reporting regulations of Title 22, Division 4, Chapters 15, 17, and 17.5 of the California Code of Regulations.

(2) A compliance report containing the following information for each small water system under the jurisdiction of the local primacy agency that is in violation of Title 22, Division 4, Chapters 15, 17, and 17.5 of the California Code of Regulations:

- (A) The name and water system identification number of the system.
- (B) A description of the type of violation and the standard violated.
- (C) A description of any enforcement action taken by the local primacy agency with respect to the violation.

(b) The following reports shall be submitted quarterly in an electronic data format to the department no later than the last day of the quarter following the quarter being reported:

(1) A list of domestic water supply permits for small water systems that have been issued, amended or renewed during the reporting period. The list shall include the name and the identification number of the water system.

(2) A list of the small water systems for which a routine inspection or sanitary survey was conducted during the reporting period. The list shall indicate the name and identification number of the small water system and the type of routine inspection or sanitary survey performed.

(c) An updated inventory of small water systems under the jurisdiction of the local primacy agency shall be submitted annually in an electronic format to the department no later than August 15 of each year.

§64258. Enforcement.

(a) The local primacy agency shall take enforcement actions as necessary to assure that all small water systems under the jurisdiction of the local primacy agency are in compliance with Division 5, Part 1, Chapter 7; Division 104, Part 1, Chapters 4 and 5; Division 104, Part 12, Chapters 1 through 6 of the Health and Safety Code, and California Code of Regulations, Title 17, Division 1, Chapter 5, Groups 2 and 4, and Title 22, Division 4, Chapters 14, 15, 16, 17, and 17.5.

(b) Each local primacy agency shall notify each small water system under their jurisdiction of any new state or federal drinking water requirements applicable to those systems.

§64259. Program Management.

(a) Each local primacy agency shall establish and maintain a time accounting system for determining the amount of reimbursement to be billed to each small water system pursuant to section 4019.40 of the Health and Safety Code. The hourly cost rate of the local primacy agency shall be determined using the criteria set forth in section 4019.35 (b) of the Health and Safety Code.

(b) Each local primacy agency shall establish and maintain an individual file for each small water system under its jurisdiction. The following information shall be maintained in the file:

- (1) The current operating permit and all technical reports supporting it.
- (2) Permit applications, permit technical reports, permits and amended permits for a minimum of 10 years.
- (3) The most recent plans, specifications and other information submitted by the water system pertaining to sources of supply, treatment works, storage facilities, and distribution system, including water quality monitoring plans and total coliform siting plans.
- (4) Inspection and sanitary survey reports for a minimum of 10 years.
- (5) Copies of bacteriological water quality analyses for a minimum of 5 years; copies of all other water quality analyses for a minimum of 10 years.
- (6) Correspondence, memoranda and other written records pertaining to the system issued or written within the past three years.
- (7) Copies of all compliance orders, citations, court actions and other enforcement documentation.

§64260. Workplans.

(a) Each local primacy agency shall develop and submit to the department a proposed annual program workplan for the upcoming fiscal year. The local primacy agency shall submit the proposed annual workplan to the department no later than May 1 of each year for the fiscal year commencing July 1 of that year; except for the initial proposed annual workplan submitted in accordance with section 64252.

(b) The workplan developed pursuant to subsection (a) shall describe the activities proposed to be performed by the local primacy agency during the forthcoming fiscal year and shall include:

- (1) The anticipated number of new small water system permits to be issued and the proposed number of existing community or noncommunity permits (designated by category) to be updated or amended.
- (2) A description of how the small water system inventory specified in section 64255 (a) will be maintained.
- (3) A description of how the surveillance activities specified in section 64255 (b) through (f) will be conducted and the priorities to be used in determining the activities to be performed.
- (4) The number of planned routine inspections and sanitary surveys to be performed for each category of small water systems (community, noncommunity and nontransient noncommunity).
- (5) A listing of small water systems proposed for enforcement action and the priorities to be used in determining these systems.

CHAPTER 15. DOMESTIC WATER QUALITY AND MONITORING REGULATIONS
ARTICLE 1. DEFINITIONS**§64400. Acute Risk.**

“Acute Risk” means the potential for a contaminant to cause acute health effects, i.e., death, damage or illness, as a result of a single period of exposure of a duration measured in seconds, minutes, hours, or days.

§64400.10. Community Water System.

“Community water system” means a public water system which serves at least 15 service connections used by yearlong residents or regularly serves at least 25 yearlong residents.

§64400.20. Compliance Cycle.

“Compliance cycle” means the nine-year calendar year cycle during which public water systems shall monitor. Each compliance cycle consists of three three-year compliance periods. The first calendar year cycle began January 1, 1993 and ends December 31, 2001; the second begins January 1, 2002 and ends December 31, 2010; the third begins January 1, 2011 and ends December 31, 2019.

§64400.30. Compliance Period.

“Compliance period” means a three-year calendar year period within a compliance cycle. Within the first compliance cycle, the first compliance period runs from January 1, 1993 to December 31, 1995; the second from January 1, 1996 to December 31, 1998; the third from January 1, 1999 to December 31, 2001.

§64400.40. Confluent Growth.

“Confluent growth” means a continuous bacterial growth covering the entire filtration area of a membrane filter, or a portion thereof, in which bacterial colonies are not discrete.

§64400.42. Customer.

“Customer” means a service connection to which water is delivered by a community water system or a person that receives water from a nontransient-noncommunity water system for more than six months of the year.

§64400.44. Detected.

“Detected” means at or above the detection limit for purposes of reporting (DLR).

§64400.45. Detection Limit for Purposes of Reporting (DLR).

“Detection limit for purposes of reporting (DLR)” means the designated minimum level at or above which any analytical finding of a contaminant in drinking water resulting from monitoring required under this chapter shall be reported to the Department.

§64400.47. Fluoridation.

“Fluoridation” means the addition of fluoride to drinking water to achieve an optimal level, pursuant to §64433.2, that protects and maintains dental health.

§64400.50. Initial Compliance Period.

“Initial compliance period” means the first full three-year compliance period which began January 1, 1993, for existing systems. For new systems, the “initial compliance period” means the period in which the Department grants the permit.

§64400.60. Initial Finding.

“Initial finding” means the first laboratory result from a water source showing the presence of an organic chemical listed in §64444, Table 64444-A.

§64400.65. IOC.

“IOC” means inorganic chemical.

§64400.70. MCL.

“MCL” means maximum contaminant level.

§64400.80. Nontransient-noncommunity Water System.

“Nontransient-noncommunity water system” means a public water system that is not a community water system and that regularly serves at least the same 25 persons over 6 months per year.

§64401. Repeat Compliance Period.

“Repeat compliance period” means any subsequent compliance period after the initial compliance period.

§64401.10. Repeat Sample.

“Repeat sample” means a required sample collected following a total coliform-positive sample.

§64401.20. Replacement Sample.

“Replacement sample” means a sample collected to replace an invalidated sample.

§64401.30. Routine Sample.

“Routine sample” means a bacteriological sample the water supplier is required to collect on a regular basis, or one which the supplier is required to collect for a system not in compliance with Sections 64650 through 64666 when treated water turbidity exceeds 1 nephelometric turbidity unit (NTU), pursuant to §64423(b).

§64401.40. Sanitary Survey.

“Sanitary survey” means an on-site review of a public water system for the purpose of evaluating the adequacy of the water source, facilities, equipment, operation and maintenance for producing and distributing safe drinking water.

§64401.50. Significant Rise in Bacterial Count.

“Significant rise in bacterial count” means an increase in coliform bacteria, as determined in §64426, when associated with a suspected waterborne illness or disruption of physical works or operating procedures.

§64401.55. SOC.

“SOC” means synthetic organic chemical.

§64401.60. Standby Source.

“Standby source” means a source which is used only for emergency purposes pursuant to §64414.

§64401.70. System with a Single Service Connection.

“System with a single service connection” means a system which supplies drinking water to consumers via a single service line.

§64401.75. Too Numerous to Count.

“Too numerous to count” means that the total number of bacterial colonies exceeds 200 on a 47-mm diameter membrane filter used for coliform detection.

§64401.80. Total Coliform-positive.

“Total coliform-positive” means a sample result in which the presence of total coliforms has been demonstrated.

§64401.85. Transient-noncommunity Water System.

“Transient-noncommunity water system” means a public water system that is not a community water system or a nontransient-noncommunity water system.

§64401.90. Treatment.

“Treatment” means physical, biological, or chemical processes, including blending, designed to affect water quality parameters to render the water acceptable for domestic use.

§64401.95. VOC.

“VOC” means volatile organic chemical.

§64402. Vulnerable System.

“Vulnerable system” means a water system which has any water source which in the judgement of the Department, has a risk of containing an organic contaminant, based on an assessment as set forth in §64445(d)(1).

§64402.10. Water Source.

“Water source” means an individual groundwater source or an individual surface water intake. Sources which have not been designated as standby sources shall be deemed to be water sources.

§64402.20. Water Supplier.

“Water supplier”, “person operating a public water system” or “supplier of water” means any person who owns or operates a public water system. These terms will be used interchangeably in this chapter.

(a) “Wholesale water supplier,” or “wholesaler” means any person who treats water on behalf of one or more public water systems for the purpose of rendering it safe for human consumption.

(b) “Retail water supplier,” or “retailer” means

(1) Any person who owns or operates any distribution facilities and any related collection, treatment, or storage facilities under the control of the operator of the public water system which are used primarily in connection with the public water system; or

(2) Any person who owns or operates any collection or pretreatment storage facilities not under the control of the operator of the public water system which are used primarily in connection with the public water system.

ARTICLE 2. GENERAL REQUIREMENTS

§64412. Determination of Persons Served.

(a) The number of persons served by a community water system shall be determined by the water system using one of the following methods:

(1) Utilizing the most recent United States census data, or more recent special census data certified by the California Department of Finance, for the service area served by the water system;

(2) Multiplying the number of service connections served by the water system by 3.3 to determine the total population served;

(3) Determining the total number of dwelling units or efficiency dwelling units as defined in the Uniform Building Code (Title 24, California Code of Regulations), the number of mobile home park spaces and the number of individual business, commercial, industrial and institutional billing units served by the water system and multiplying this total by 2.8 to arrive at the total population served by the system.

(b) Each community water system shall report to the Department annually the number of persons and the number of service connections served by the system using the procedures set forth in subsection (a).

§64413.1. Classification of Water Treatment Facilities.

(a) Each water treatment facility shall be classified pursuant to Table 64413.1-A based on the calculation of total points for the facility using the factors specified in subsection(b).

Table 64413.1-A.
Water Treatment Facility Class Designations

<i>Total Points</i>	<i>Class</i>
Less than 20	T1
20 through 39	T2
40 through 59	T3
60 through 79	T4
80 or more	T5

(b) The calculation of total points for each water treatment facility shall be the sum of the points derived in each of paragraphs (1) through (13) except where a treatment facility treats

more than one source, in which case the source with the highest average of each contaminant shall be used to determine the point value in paragraphs (2) through (5).

(1) For water source, the points are determined pursuant to Table 64413.1-B.

Table 64413.1-B.
Points for Source Water Used by the Facility

<i>Type of source water used by the facility</i>	<i>Points</i>
Groundwater and/or purchased treated water meeting primary and secondary drinking water standards, as defined in § 116275 of the Health and Safety Code	2
Water that includes any surface water or groundwater under the direct influence of surface water	5

(2) For influent microbiological water quality, points shall be determined by using the median of all total coliform analyses completed in the previous 24 months pursuant to Table 64413.1-C:

Table 64413.1-C.
Influent Water Microbiological Quality Points

<i>Median Coliform Density Most Probable Number Index (MPN)</i>	<i>Points</i>
less than 1 per 100 mL	0
1 through 100 per 100 mL	2
greater than 100 through 1,000 per 100 mL	4
greater than 1,000 through 10,000 per 100 mL	6
greater than 10,000 per 100 mL	8

(3) For facilities treating surface water or groundwater under the direct influence of surface water, points for influent water turbidity shall be determined pursuant to Table 64413.1-D on the basis of the previous 24 months of data, except that if turbidity data is missing for one or more of the months, the points given for turbidity shall be 5. The maximum influent turbidity sustained for at least one hour according to an on-line turbidimeter shall be used unless such data is not available, in which case, the maximum influent turbidity identified by grab sample shall be used. For facilities that have not been in operation for 24 months, the available data shall be used. For facilities whose permit specifies measures to ensure that influent turbidity will not exceed a specified level, the points corresponding to that level shall be assigned.

Table 64413.1-D.
Influent Water Turbidity Points

<i>Maximum Influent Turbidity Level Nephelometric Turbidity Units (NTU)</i>	<i>Points</i>
Less than 15	0

15 through 100	2
Greater than 100	5

(4) The points for influent water nitrate and nitrite levels shall be determined by an average of the three most recent sample results, pursuant to Table 64413.1-E.

Table 64413.1-E.
Influent Water Nitrate and Nitrite Points

<i>Nitrate and Nitrite Data Average</i>	<i>Points</i>
Less than or equal to the maximum contaminant level (MCL), as specified in Table 64431-A	0
Greater than the MCL	5

(5) The points for other influent water contaminants with primary MCLs shall be a sum of the points for each of the inorganic contaminants (Table 64431-A), organic contaminants (Table 64444-A) and radionuclides (Table 4, §64443). The points for each contaminant shall be based on an average of the three most recent sample results, pursuant to Table 64413.1-F. If monitoring for a contaminant has been waived pursuant to §§ 64432(k), 64432.2(c), or 64445(d), the points shall be zero for that contaminant.

Table 64413.1-F.
Influent Water Chemical and Radiological Contaminant Points

<i>Contaminant Data Average</i>	<i>Points</i>
Less than or equal to the MCL	0
Greater than the MCL	2
5 Times the MCL or greater	5

(6) The total points for surface water filtration treatment shall be the sum of the points of those treatment processes utilized by the facility for compliance with §64652, pursuant to Table 64413.1-G.

Table 64413.1-G.
Points for Surface Water Filtration Treatment

<i>Treatment</i>	<i>Points</i>
Conventional, direct, or inline	15
Diatomaceous earth	12
Slow sand, membrane, cartridge, or bag filter	8
Backwash recycled as part of process	5

(7) The points for each treatment process utilized by the facility and not included in paragraph (6) that is used to reduce the concentration of one or more contaminants for which a primary MCL exists, pursuant to Table 64431-A, Table 64444-A, and Table 4 of §64443, shall

be 10. Blending shall only be counted as a treatment process if one of the blended sources exceeds a primary MCL.

(8) The points for each treatment process not included in paragraphs (6), or (7) that is used to reduce the concentration of one or more contaminants for which a secondary MCL exists, pursuant to Tables 64449-A and 64449-B, shall be 3. Blending shall only be counted as a treatment process if one of the blended sources exceeds a secondary MCL.

(9) The points for each treatment process not included in paragraphs (6), (7), or (8) that is used for corrosion control or fluoridation shall be 3.

(10) The total points for disinfection treatment shall be the sum of the points for those treatment processes utilized by the facility for compliance with §64654(a), pursuant to Table 64413.1-H.

Table 64413.1-H.
Points for Disinfection Treatment

<i>Treatment Process</i>	<i>Points</i>
Ozone	10
Chlorine and/or chloramine	10
Chlorine dioxide	10
Ultra violet (UV)	7

(11) The points for disinfection/oxidation treatment not included in paragraphs (6), (7), (8), or (10) shall be a sum of the points for all the treatment processes used at the facility pursuant to Table 64413.1-I.

Table 64413.1-I.
Points for Disinfection/Oxidation Treatment without Inactivation Credit

<i>Treatment Process</i>	<i>Points</i>
Ozone	5
Chlorine and/or chloramine	5
Chlorine dioxide	5
Ultra violet (UV)	3
Other oxidants	5

(12) The points for any other treatment process that alters the physical or chemical characteristics of the drinking water and that was not included in paragraphs (6), (7), (8), (9), (10), or (11) shall be 3.

(13) The points for facility flow shall be 2 per million gallons per day or fraction thereof of maximum permitted treatment facility capacity, up to a maximum of 50 points; except that for facilities utilizing only blending, the points shall be based on the flow from the contaminated source and the dilution flow required to meet the MCL(s) specified in Tables 64431-A, 64444-A, 64449-A, 64449-B, and Table 4 of §64443.

§64413.3. Classification of Distribution Systems.

(a) The distribution system for each community and nontransient- noncommunity water system shall be classified pursuant to Table 64413.3-A unless modified pursuant to subsection(b). For a wholesaler, the population served shall include the customers served by its retailers.

Table 64413.3-A.
Distribution System Classifications

<i>Population Served</i>	<i>Class</i>
1,000 or less	D1
1,001 through 10,000	D2
10,001 through 50,000	D3
50,001 through 5 million	D4
Greater than 5 million	D5

(b) The class determined pursuant to (a) shall be upgraded by one level if the population served is 5 million or less and the sum of all the points from paragraphs (1) through (6) exceeds 20.

(1) The points for pressure zones shall be zero for up to three zones, 4 for four to ten zones, or 6 for more than ten zones.

(2) The points for disinfectants used shall be zero if no disinfectant is applied in the distribution system and no more than one type of disinfectant residual is entering the distribution system. The points shall be 5 if a single disinfectant or ammonia is applied in the distribution system. The points shall be 8 if there are multiple disinfectants in the system.

(3) The points based on the largest single pump in the system for which the distribution operator is responsible shall be 4 for up to fifty horsepower, or 6 for fifty or more horsepower.

(4) The points for distribution storage reservoirs in the system shall be 4 for one to five reservoirs, or 6 for greater than five.

(5) The points for one or more existing uncovered distribution reservoirs shall be 10.

(6) The points to be added if any of the distribution system customers are also served by a non-potable water distribution system shall be 6. This does not apply to wholesalers if the only customers receiving non-potable water are served by its retailers.

§64413.5. Treatment Facility Staff Certification Requirements.

(a) Each water supplier shall designate at least one chief operator that meets the requirements specified in §63765 for each water treatment facility utilized by the water system.

(b) Each water supplier shall designate at least one shift operator that meets the requirements specified in §63765 for each water treatment facility utilized by the water system for each operating shift.

(c) Except as provided in (d), a chief operator or shift operator shall be on-site at all times that the facility is operating.

(d) If the water supplier's operations plan, submitted and approved pursuant to §64661, demonstrates an equal degree of operational oversight and reliability with either unmanned operation or operation under reduced operator certification requirements, the chief operator or shift operator is not required to be on-site, but shall be able to be contacted within one hour.

(e) If there is no change in the treatment facility and the employed shift and/or chief operators, the water supplier shall be in compliance until January 1, 2003 with the shift and operator certification requirements that were in effect on December 31, 2000. If the water system employs a new shift and/or chief operator, that operator shall meet the certification requirements pursuant to §63765(a).

§64413.7. Distribution System Staff Certification Requirements.

(a) Each water supplier shall designate at least one chief operator that meets the requirements specified in §63770 for each distribution system utilized by the water system.

(b) Each water supplier shall designate at least one shift operator that meets the requirements specified in §63770 for each distribution system utilized by the water system for each operating shift.

(c) The chief operator or shift operator shall be on-site or able to be contacted within one hour.

§64414. Standby Sources.

(a) A source which has been designated "standby" shall be monitored a minimum of once every compliance cycle for all inorganic, organic, and radiological MCLs, unless a waiver has been granted by the Department pursuant to §64432(k) or (l) for inorganics, or §64445(d) for organics.

(b) A standby source which has previous monitoring results indicating nitrate or nitrite levels equal to or greater than 50 percent of the MCL shall collect and analyze a sample for nitrate and nitrite annually. In addition, upon activation of such a source, a sample shall be collected, analyzed for these chemicals and the analytical results reported to the Department within 24 hours of activation.

(c) A standby source shall be used only for short-term emergencies of five consecutive days or less, and for less than a total of fifteen calendar days a year.

(d) Within 3 days after the short-term emergency use of a standby source, the water supplier shall notify the Department. The notification shall include information on the reason for and duration of the use.

(e) The status of a designated standby source shall not be changed to that of a regular source of drinking water supply, unless the source meets all existing drinking water standards and approval is obtained from the Department in advance.

§64415. Laboratory and Personnel.

(a) Required analyses shall be performed by laboratories approved to perform those analyses by the Department, pursuant to Section 116390, Health and Safety Code. Analyses shall be made in accordance with EPA approved methods as prescribed at 40 Code of Federal Regulations Sections 141.21 through 141.40, 141.41, 141.42, and 141.89.

(b) Sample collection, and field tests including color, odor, turbidity, pH, temperature, and disinfectant residual shall be performed by a water treatment operator certified by the Department pursuant to Section 106875 of the Health and Safety Code or by personnel trained to collect samples and/or perform these tests by the Department, a certified laboratory, or a certified operator.

§64416. Sampling Plan for all Monitoring Except Bacteriological.

(a) Each public water system serving contiguous areas totalling more than 10,000 serviceconnections shall submit a plan to the Department for monitoring the quality of water.

(1) This plan shall be supported by analytical, hydrological and geological data, and may be developed in cooperation with other agencies or water suppliers.

(2) Constituents to be addressed in the plan shall include inorganic chemicals, organic chemicals, trihalomethanes, radioactivity, general minerals and general physical parameters.

(3) Sampling of certain wells on a rotating basis may be included in the plan if the water supplier is able to demonstrate with analytical, hydrological and geological data that those wells are producing similar quality water from the same aquifer.

(4) The water supplier shall submit an updated plan to the Department at least once every ten years or at any time the plan no longer ensures representative monitoring of the system.

§64417. Siting Requirements.

(a) A person operating a public water system shall notify the Department prior to making any financial commitment for or initiation of construction of a new public water system or increasing the capacity of an existing public water system. To the extent practicable, no part of a new or expanded facility shall be:

(1) Subject to pollution or contamination from any point or nonpoint sources.

(2) Subject to a significant risk from natural disasters which could cause a breakdown of the public water system or a portion thereof.

(3) Within the flood plain of a 100-year flood or lower than any recorded high tide, except for intake structures.

ARTICLE 3. PRIMARY STANDARDS--BACTERIOLOGICAL QUALITY

§64421. General Requirements.

(a) Each water supplier shall:

(1) Develop a routine sample siting plan as required in §64422;

(2) Collect routine, repeat and replacement samples as required in Sections 64423, 64424, and 64425;

(3) Have all samples analyzed by laboratories approved to perform those analyses by the Department and report results as required in §64423.1;

- (4) Notify the Department when there is an increase in coliform bacteria in bacteriological samples as required in §64426; and
- (5) Comply with the Maximum Contaminant Level as required in §64426.1.

(b) Water suppliers shall perform additional bacteriological monitoring as follows:

- (1) After construction or repair of wells;
- (2) After main installation or repair;
- (3) After construction, repair, or maintenance of storage facilities; and
- (4) After any system pressure loss to less than five psi. Samples collected shall represent the water quality in the affected portions of the system.

§64422. Routine Sample Siting Plan.

(a) By September 1, 1992, each water supplier shall develop and submit to the Department a siting plan for the routine collection of samples for total coliform analysis, subject to the following:

(1) The sample sites chosen shall be representative of water throughout the distribution system including all pressure zones, and areas supplied by each water source and distribution reservoir.

(2) The water supplier may rotate sampling among the sample sites if the total number of sites needed to comply with (a)(1) above exceeds the number of samples required according to Table 64423-A. The rotation plan shall be described in the sample siting plan.

(b) If personnel other than certified operators will be performing field tests and/or collecting samples, the sample siting plan shall include a declaration that such personnel have been trained, pursuant to §64415 (b).

(c) The supplier shall submit an updated plan to the Department at least once every ten years and at any time the plan no longer ensures representative monitoring of the system.

§64423. Routine Sampling.

(a) Each water supplier shall collect routine bacteriological water samples as follows:

(1) The minimum number of samples for community water systems shall be based on the known population served or the total number of service connections, whichever results in the greater number of samples, as shown in Table 64423-A. A community water system using groundwater which serves 25-1000 persons may request from the Department a reduction in monitoring frequency. The minimum reduced frequency shall not be less than one sample per quarter.

(2) The minimum number of samples for nontransient-noncommunity water systems shall be based on the known population served as shown in Table 64423-A during those months when the system is operating. A nontransient-noncommunity water system using groundwater which serves 25-1000 persons may request from the Department a reduction in monitoring frequency if it has not violated the requirements in this article during the past twelve months. The minimum reduced frequency shall not be less than one sample per quarter.

(3) The minimum number of samples for transient-noncommunity water systems using groundwater and serving 1000 or fewer persons a month shall be one in each calendar quarter during which the system provides water to the public.

(4) The minimum number of samples for transient-noncommunity water systems using groundwater and serving more than 1000 persons during any month shall be based on the known population served as shown in Table 64423-A, except that the water supplier may request from the Department a reduction in monitoring for any month the system serves 1000 persons or fewer. The minimum reduced frequency shall not be less than one sample in each calendar quarter during which the system provides water to the public.

(5) The minimum number of samples for transient-noncommunity water systems using approved surface water shall be based on the population served as shown in Table 64423-A. A system using groundwater under the direct influence of surface water shall begin monitoring at this frequency by the end of the sixth month after the Department has designated the source to be approved surface water.

(6) A public water system shall collect samples at regular time intervals throughout the month, except that a system using groundwater which serves 4,900 persons or fewer may collect all required samples on a single day if they are taken from different sites.

(b) In addition to the minimum sampling requirements, all water suppliers using approved surface water which do not practice treatment in compliance with Sections 64650 through 64666, shall collect a minimum of one sample before or at the first service connection each day during which the turbidity level of the water delivered to the system exceeds 1 NTU. The sample shall be collected within 24 hours of the exceedance and shall be analyzed for total coliforms. If the water supplier is unable to collect and/or analyze the sample within the 24-hour time period because of extenuating circumstances beyond its control, the supplier shall notify the Department within the 24-hour time period and may request an extension. Sample results shall be included in determining compliance with the MCL for total coliforms in §64426.1.

(c) If any routine, repeat, or replacement sample is total coliform-positive, then the water supplier shall collect repeat samples in accordance with §64424 and comply with the reporting requirements specified in Sections 64426 and 64426.1.

Table 64423-A
Minimum Number of Routine Total Coliform Samples

<i>Monthly Population Served</i>	<i>Service Connections</i>	<i>Minimum Number of Samples</i>
25 to 1000	15 to 400	1 per month
1,001 to 2,500	401 to 890	2 per month
2,501 to 3,300	891 to 1,180	3 per month
3,301 to 4,100	1,181 to 1,460	4 per month
4,101 to 4,900	1,461 to 1,750	5 per month
4,901 to 5,800	1,751 to 2,100	6 per month
5,801 to 6,700	2,101 to 2,400	7 per month
6,701 to 7,600	2,401 to 2,700	2 per week
7,601 to 12,900	2,701 to 4,600	3 per week
12,901 to 17,200	4,601 to 6,100	4 per week
17,201 to 21,500	6,101 to 7,700	5 per week
21,501 to 25,000	7,701 to 8,900	6 per week

25,001 to 33,000	8,901 to 11,800	8 per week
33,001 to 41,000	11,801 to 14,600	10 per week
41,001 to 50,000	14,601 to 17,900	12 per week
50,001 to 59,000	17,901 to 21,100	15 per week
59,001 to 70,000	21,101 to 25,000	18 per week
70,001 to 83,000	25,001 to 29,600	20 per week
83,001 to 96,000	29,601 to 34,300	23 per week
96,001 to 130,000	34,301 to 46,400	25 per week
130,001 to 220,000	46,401 to 78,600	30 per week
220,001 to 320,000	78,601 to 114,300	38 per week
320,001 to 450,000	114,301 to 160,700	50 per week
450,001 to 600,000	160,701 to 214,300	55 per week
600,001 to 780,000	214,301 to 278,600	60 per week
780,001 to 970,000	278,601 to 346,400	70 per week
970,001 to 1,230,000	346,401 to 439,300	75 per week
1,230,001 to 1,520,000	439,301 to 542,900	85 per week
1,520,001 to 1,850,000	542,901 to 660,700	90 per week
1,850,001 to 2,270,000	660,701 to 810,700	98 per week
2,270,001 to 3,020,000	810,701 to 1,078,600	105 per week
3,020,001 to 3,960,000	1,078,601 to 1,414,300	110 per week
3,960,001 or more	1,414,301 or more	120 per week

§64423.1. Sample Analysis and Reporting of Results.

(a) The water supplier shall designate (label) each sample as routine, repeat, replacement, or “other” pursuant to §64421(b), and have each sample analyzed for total coliforms. The supplier also shall require the laboratory to analyze the same sample for fecal coliforms or *Escherichia coli* (*E. coli*) whenever the presence of total coliforms is indicated. As a minimum, the analytical results shall be reported in terms of the presence or absence of total or fecal coliforms, or *E. coli* in the sample, whichever is appropriate.

(b) The water supplier shall require the laboratory to notify the supplier within 24 hours, whenever the presence of total coliforms, fecal coliforms or *E. coli* is demonstrated in a sample or a sample is invalidated due to interference problems, pursuant to §64425(b), and shall ensure that a contact person is available to receive these analytical results 24-hours a day. The water supplier shall also require the laboratory to immediately notify the Department of any positive bacteriological results if the laboratory cannot make direct contact with the designated contact person within 24 hours.

(c) Analytical results of all required samples collected for a system in a calendar month shall be reported to the Department not later than the tenth day of the following month, as follows:

(1) The water supplier shall submit a monthly summary of the bacteriological monitoring results to the Department.

(2) For systems serving fewer than 10,000 service connections or 33,000 persons, the water supplier shall require the laboratory to submit copies of all required bacteriological monitoring results directly to the Department.

(3) For systems serving more than 10,000 service connections, or 33,000 persons, the water supplier shall require the laboratory to submit copies of bacteriological monitoring results for all positive routine samples and all repeat samples directly to the Department.

(d) Laboratory reports shall be retained by the water supplier for a period of at least five years and shall be made available to the Department upon request.

§64424. Repeat Sampling.

(a) If a routine sample is total coliform-positive, the water supplier shall collect a repeat sample set as described in paragraph (a)(1) within 24 hours of being notified of the positive result. The repeat samples shall all be collected within the same 24 hour time period. A single service connection system may request that the Department allow the collection of the repeat sample set over a four-day period.

(1) For a water supplier that normally collects more than one routine sample a month, a repeat sample set shall be at least three samples for each total coliform-positive sample. For a water supplier that normally collects one or fewer samples per month, a repeat sample set shall be at least four samples for each total coliform-positive sample.

(2) If the water supplier is unable to collect the samples within the 24-hour time period specified in subsection (a) or deliver the samples to the laboratory within 24 hours after collection because of circumstances beyond its control, the water supplier shall notify the Department within 24 hours. The Department will then determine how much time the supplier will have to collect the repeat samples.

(b) When collecting the repeat sample set, the water supplier shall collect at least one repeat sample from the sampling tap where the original total coliform-positive sample was taken. Other repeat samples shall be collected within five service connections upstream or downstream of the original site. At least one sample shall be from upstream and one from downstream unless there is no upstream and/or downstream service connection.

(c) If one or more samples in the repeat sample set is total coliform-positive, the water supplier shall collect and have analyzed an additional set of repeat samples as specified in subsections (a) and (b). The supplier shall repeat this process until either no coliforms are detected in one complete repeat sample set or the supplier determines that the MCL for total coliforms specified in §64426.1 has been exceeded and notifies the Department.

(d) If a public water system for which fewer than five routine samples/month are collected has one or more total coliform-positive samples, the water supplier shall collect at least five routine samples the following month. If the supplier stops supplying water during the month after the total coliform-positive(s), at least five samples shall be collected during the first month the system resumes operation. A water supplier may request the Department waive the requirement to collect at least five routine samples the following month, but a waiver will not be granted solely on the basis that all repeat samples are total coliform-negative. To request a waiver, one of the following conditions shall be met:

(1) The Department conducts a site visit before the end of the next month the system provides water to the public to determine whether additional monitoring and/or corrective action is necessary to protect public health.

(2) The Department determines why the sample was total coliform-positive and establishes that the system has corrected the problem or will correct the problem before the end of the next month the system serves water to the public. If a waiver is granted, a system shall collect at least one routine sample before the end of the next month it serves water to the public and use it to determine compliance with §64426.1.

§64425. Sample Invalidation.

(a) A water supplier may request the Department to invalidate a sample for which a total coliform-positive result has been reported if the supplier demonstrates:

(1) All repeat sample(s) collected at the same tap as the original total coliform-positive sample also are total coliform-positive and all repeat samples collected within five service connections of the original tap are not total coliform-positive; or

(2) The laboratory did not follow the prescribed analytical methods pursuant to §64415(a), based on a review of laboratory documentation by the Department. The supplier shall submit to the Department a written request for invalidation along with the laboratory documentation, the supplier's sample collection records and any observations noted during sample collection and delivery. The water supplier shall require the laboratory to provide the supplier with documentation which shall include, but not be limited to:

(A) A letter from the director of the laboratory having generated the data, confirming the invalidation request by reason of laboratory accident or error;

(B) Complete sample identification, laboratory sample log number (if used), date and time of collection, date and time of receipt by the laboratory, date and time of analysis for the sample(s) in question;

(C) Complete description of the accident or error alleged to have invalidated the result(s);

(D) Copies of all analytical, operating, and quality assurance records pertaining to the incident in question; and

(E) Any observations noted by laboratory personnel when receiving and analyzing the sample(s) in question.

(b) Whenever any total coliform sample result indicative of the absence of total coliforms has been declared invalid by the laboratory due to interference problems as specified at 40 Code Federal Regulations, Section 141.21(c)(2), the supplier shall collect a replacement sample from the same location as the original sample within 24 hours of being notified of the interference problem, and have it analyzed for the presence of total coliforms. The supplier shall continue to re-sample at the original site within 24 hours and have the samples analyzed until a valid result is obtained.

§64426. Significant Rise in Bacterial Count.

(a) Any of the following criteria shall indicate a possible significant rise in bacterial count:

(1) A system collecting at least 40 samples per month has a total coliform-positive routine sample followed by two total coliform-positive repeat samples in the repeat sample set;

(2) A system has a sample which is positive for fecal coliform or E. coli; or

(3) A system fails the total coliform Maximum Contaminant Level (MCL) as defined in §64426.1.

(b) When the coliform levels specified in subsection (a) are reached or exceeded, the water supplier shall:

(1) Contact the Department by the end of the day on which the system is notified of the test result or the system determines that it has exceeded the MCL, unless the notification or determination occurs after the Department office is closed, in which case the supplier shall notify the Department within 24 hours; and

(2) Submit to the Department information on the current status of physical works and operating procedures which may have caused the elevated bacteriological findings, or any information on community illness suspected of being waterborne. This shall include, but not be limited to:

- (A) Current operating procedures that are or could potentially be related to the increase in bacterial count;
- (B) Any interruptions in the treatment process;
- (C) System pressure loss to less than 5 psi;
- (D) Vandalism and/or unauthorized access to facilities;
- (E) Physical evidence indicating bacteriological contamination of facilities;
- (F) Analytical results of any additional samples collected, including source samples;
- (G) Community illness suspected of being waterborne; and
- (H) Records of the investigation and any action taken.

(c) Upon receiving notification from the Department of a significant rise in bacterial count, the water supplier shall implement the emergency notification plan required by Section 4029¹⁸, Health and Safety Code.

§64426.1. Total Coliform Maximum Contaminant Level (MCL).

(a) Results of all samples collected in a calendar month pursuant to Sections 64423, 64424, and 64425 that are not invalidated by the Department or the laboratory shall be included in determining compliance with the total coliform MCL. Special purpose samples such as those listed in §64421(b) and samples collected by the water supplier during special investigations shall not be used to determine compliance with the total coliform MCL.

(b) A public water system is in violation of the total coliform MCL when any of the following occurs:

- (1) For a public water system which collects at least 40 samples per month, more than 5.0 percent of the samples collected during any month are total coliform-positive; or
- (2) For a public water system which collects fewer than 40 samples per month, more than one sample collected during any month is total coliform-positive; or
- (3) Any repeat sample is fecal coliform-positive or E. coli-positive; or
- (4) Any repeat sample following a fecal coliform-positive or E. coli-positive routine sample is total coliform-positive.

(c) If a public water system is not in compliance with paragraphs (b)(1) through (4), during any month in which it supplies water to the public, the water supplier shall notify the Department

¹⁸ Section 4029 has been recodified to 116460. OAL has been notified of this by request for a “change without regulatory effect”.

by the end of the business day on which this is determined, unless the determination occurs after the Department office is closed, in which case the supplier shall notify the Department within 24 hours of the determination. The water supplier shall also notify the consumers served by the water system. Notification for violations of paragraphs (b)(1) or (2) shall be in accordance with Sections 64464.3 and 64467, including the language in §64470(a). Notification for violations of subsections (b)(3) or (4) shall be in accordance with Sections 64464.3, 64465 and 64467, including the language in §64470(b).

§64426.5. Variance from Total Coliform Maximum Contaminant Level.

A water system may apply to the Department for a variance from the total coliform MCL in §64426.1(b)(1) or (2). To be eligible for a variance, the water system shall demonstrate that it meets the following criteria:

(a) During the thirty days prior to application for a variance, water entering the distribution system has:

- (1) Been free from fecal coliform or *E. coli* occurrence based on at least daily sampling;
 - (2) Contained less than one total coliform per hundred milliliters of water in at least ninety-five per cent of all samples based on at least daily sampling;
 - (3) Complied with the turbidity requirements of §64653, if approved surface water;
- and
- (4) Maintained a continuous disinfection residual of at least 0.2 mg/L at the entry point(s) to the distribution system;

(b) The system has had no waterborne microbial disease outbreak, pursuant to §64651.91, while operated in its present configuration;

(c) The system maintains contact at least twice a week with the Department and local health departments to assess illness possibly attributable to microbial occurrence in the public drinking water system;

(d) The system has analyzed, on a monthly basis, at least the number of samples required pursuant to the approved sample siting plan and has not had an *E. coli*-positive compliance sample within the last six months, unless the system demonstrates to the Department that the occurrence is not due to contamination entering the distribution system;

(e) The system has undergone a sanitary survey conducted by the Department within the past twelve months;

(f) The system maintains a cross-connection control program in accordance with sections 7583 through 7605, title 17 of the California Code of Regulations;

(g) The system agrees to submit a biofilm control plan to the Department within twelve months of the granting of the first request for a variance;

(h) The system monitors general distribution system bacterial quality by conducting heterotrophic bacteria plate counts on at least a weekly basis at a minimum of ten percent of the

number of total coliform sites specified in the approved sample siting plan (preferably using the methods in section 9215(a), 18th edition of Standard Methods for the Examination of Water and Wastewater, 1992, American Public Health Association, et. al); and

(i) The system conducts daily monitoring at distribution system total coliform monitoring sites approved by the Department and maintains a detectable disinfectant residual at a minimum of ninety-five percent of those points and a heterotrophic plate count of less than 500 colonies per ml at sites without a disinfectant residual.

(j) No water system shall be eligible for a variance or exemption from the MCL for total coliforms unless it demonstrates that the violation of the total coliform MCL is due to a persistent growth of total coliforms in the distribution system pursuant to §64426.5, rather than to fecal or pathogenic contamination, a treatment lapse or deficiency, or a problem in the operation or maintenance of the distribution system.

§64427. Sanitary Survey.

Systems which collect less than five routine samples per month shall be subject to an initial sanitary survey by the Department by June 29, 1994 for community water systems and June 29, 1999 for nontransient-noncommunity and transient-noncommunity water systems. Sanitary surveys shall be repeated every five years.

ARTICLE 4. PRIMARY STANDARDS--INORGANIC CHEMICALS

§64431. Maximum Contaminant Levels--Inorganic Chemicals.

(a) The primary MCLs for the drinking water chemicals shown in Table 64431-A shall not be exceeded in the water supplied to the public.

Table 64431-A
Maximum Contaminant Levels
Inorganic Chemicals

<i>Chemical</i>	<i>Maximum Contaminant Level, mg/L</i>
Aluminum	1.
Antimony	0.006
Arsenic	0.05
Asbestos	7 MFL*
Barium	1.
Beryllium	0.004
Cadmium	0.005
Chromium	0.05
Cyanide	0.2
Fluoride	2.0
Mercury	0.002
Nickel	0.1
Nitrate (as NO ₃)	45.
Nitrate+Nitrite (sum as nitrogen)	10.

Nitrite (as nitrogen)	1.
Selenium	0.05
Thallium	0.002

* MFL=million fibers per liter; MCL for fibers exceeding 10 um in length.

§64432. Monitoring and Compliance--Inorganic Chemicals.

(a) All public water systems shall monitor to determine compliance with the nitrate and nitrite MCLs in Table 64431-A, pursuant to subsections 64432(c) through (e) of this section and §64432.1. All community and nontransient-noncommunity water systems shall also monitor to determine compliance with the MCLs in Table 64431-A, pursuant to subsections 64432(b) through (l) of this section, and §64432.2. Monitoring shall be conducted in the year designated by the Department of each compliance period beginning with the compliance period starting January 1, 1993.

(b) The frequency of monitoring conducted to determine compliance with the MCLs for the inorganic chemicals listed in Table 64431-A, except for asbestos and nitrate/nitrite, shall be as follows:

(1) Each compliance period, all community and nontransient-noncommunity systems using groundwater shall monitor once during the year designated by the Department. The Department will designate the year based on historical monitoring frequency and laboratory capacity. All community and nontransient-noncommunity systems using approved surface water shall monitor annually. All systems monitoring at distribution entry points which have combined surface and groundwater sources shall monitor annually.

(2) Quarterly samples shall be collected and analyzed for any chemical if analyses of such samples indicate a continuous or persistent trend toward higher levels of that chemical, based on an evaluation of previous data.

(c) For the purposes of Sections 64432, 64432.1 and 64432.2, detection shall be defined by the detection limits for purposes of reporting (DLRs) in Table 64432-A.

Table 64432-A

Detection Limits for Purposes of Reporting (DLRs) for Regulated Inorganic Chemicals

<i>Chemical</i>	<i>Detection Limit for Purposes of Reporting (DLR) (mg/L)</i>
Aluminum	0.05
Antimony	0.006
Arsenic	0.002
Asbestos	0.2 MFL>10um*
Barium	0.1
Beryllium	0.001
Cadmium	0.001
Chromium	0.01
Cyanide	0.1

Fluoride	0.1
Mercury	0.001
Nickel	0.01
Nitrate (as NO ₃)	2.
Nitrite (as nitrogen)	0.4
Selenium	0.005
Thallium	0.001

* MFL=million fibers per liter; DLR for fibers exceeding 10 um in length.

(d) Samples shall be collected from each water source or a supplier may collect a minimum of one sample at every entry point to the distribution system which is representative of each source after treatment. The system shall collect each sample at the same sampling site, unless a change is approved by the Department.

(e) A water system may request approval from the Department to composite samples from up to five sampling sites, provided that the number of sites to be composited is less than the ratio of the MCL to the DLR. Approval will be based on a review of three years of historical data, well construction and aquifer information for groundwater, and intake location, similarity of sources, and watershed characteristics for surface water. Compositing shall be done in the laboratory.

(1) Systems serving more than 3,300 persons shall composite only from sampling sites within a single system. Systems serving 3,300 persons or less may composite among different systems up to the 5-sample limit.

(2) If any inorganic chemical is detected in the composite sample at a level equal to or greater than one fifth of the MCL, a follow-up sample shall be analyzed within 14 days from each sampling site included in the composite for the contaminants which exceeded the one-fifth-MCL level. If available, duplicates of the original sample taken from each sampling site used in the composite may be used instead of resampling; the analytical results shall be reported within 14 days. The water supplier may collect up to two additional samples each from one or more of the sources to confirm the result(s).

(3) Compliance for each site shall be determined on the basis of the individual follow-up samples, or on the average of the follow-up and confirmation sample(s) if the supplier collects confirmation sample(s) for each detection.

(f) If the level of any inorganic chemical, except for nitrate, nitrite, or nitrate plus nitrite, exceeds the MCL, the water supplier shall do one of the following:

(1) Inform the Department within 48 hours and monitor quarterly beginning in the next quarter after the violation occurred; or

(2) Inform the Department within seven days from the receipt of the analysis and collect one additional sample within 14 days to confirm the result. If the average of the two samples collected exceeds the MCL, this information shall be reported to the Department within 48 hours and the water supplier shall monitor quarterly beginning in the next quarter after the violation occurred.

(g) For systems monitoring quarterly, compliance shall be determined by a running annual average; if any one sample would cause the annual average to exceed the MCL, the system is out of compliance immediately. For systems monitoring annually or less frequently, compliance shall be determined based on the initial sample or the average of the initial and confirmation samples, if a confirmation sample is collected.

(h) If a system using groundwater has collected a minimum of two quarterly samples or a system using approved surface water has collected a minimum of four quarterly samples and the sample results have been below the MCL, the system may apply to the Department for a reduction in monitoring frequency.

(i) Water quality data collected prior to January 1, 1990, and/or data collected in a manner inconsistent with this section shall not be used in the determination of compliance with the monitoring requirements for inorganic chemicals.

(j) Water quality data collected in compliance with the monitoring requirements of this section by a wholesaler agency providing water to a public water system shall be acceptable for use by that system for compliance with the monitoring requirements of this section.

(k) A water system may apply to the Department for a waiver from the monitoring frequencies specified in paragraph (b)(1) of this section, if the system has conducted at least three rounds of monitoring (three periods for groundwater sources or three years for approved surface water sources) and all previous analytical results are less than the MCL. The water system shall specify the basis for its request. If granted a waiver, a system shall collect a minimum of one sample per source while the waiver is in effect and the term of the waiver shall not exceed one compliance cycle (i.e., nine years).

(l) A water system may be eligible for a waiver from the monitoring frequencies for cyanide specified in paragraph (b)(1) of this section without any prior monitoring if it is able to document that it is not vulnerable to cyanide contamination pursuant to the requirements in §64445(d)(1) or (d)(2).

(m) Transient-noncommunity water systems shall monitor for inorganic chemicals as follows:

- (1) All sources shall be monitored at least once for fluoride;
- (2) Surface water sources for parks and other facilities with an average daily population use of more than 1000 people and/or which are determined to be subject to potential contamination based on a sanitary survey shall be monitored at the same frequency as community water systems.

§64432.1. Monitoring and Compliance--Nitrate and Nitrite.

(a) To determine compliance with the MCL for nitrate in Table 64431-A, all public water systems using groundwater and transient-noncommunity systems using approved surface water shall monitor annually, and all community and nontransient-noncommunity systems using approved surface water shall monitor quarterly.

(1) The water supplier shall require the laboratory to notify the supplier within 24 hours whenever the level of nitrate in a single sample exceeds the MCL, and shall ensure that a

contact person is available to receive such analytical results 24-hours a day. The water supplier shall also require the laboratory to immediately notify the Department of any acute nitrate MCL exceedance if the laboratory cannot make direct contact with the designated contact person within 24 hours. Within 24 hours of notification, the water supplier shall:

(A) Collect another sample, and

(B) Analyze the new sample; if the average of the two nitrate sample results exceeds the MCL, report the result to the Department within 24 hours. If the average does not exceed the MCL, inform the Department of the results within seven days from the receipt of the original analysis.

(C) If a system is unable to resample within 24 hours, it shall notify the consumers in accordance with §64465 and shall collect and analyze a confirmation sample within two weeks of notification of the results of the first sample.

(2) For public water systems using groundwater, the repeat monitoring frequency shall be quarterly for at least one year following any one sample in which the concentration is greater than or equal to 50 percent of the MCL. After four consecutive quarterly samples are less than the MCL, a system may request that the Department reduce monitoring frequency to annual sampling.

(3) For public water systems using approved surface water, the repeat monitoring frequency shall be quarterly following any one sample in which the concentration is greater than or equal to 50 percent of the MCL. After four consecutive quarterly samples are less than 50 percent of the MCL, a system may request that the Department reduce monitoring frequency to annual sampling. A system using approved surface water shall return to quarterly monitoring if any one sample is greater than or equal to 50 percent of the MCL.

(4) After any round of quarterly sampling is completed, each community and nontransient-noncommunity system which initiates annual monitoring shall take subsequent samples during the quarter which previously resulted in the highest analytical results.

(b) All public water systems shall monitor to determine compliance with the MCL for nitrite in Table 64431-A, by taking one sample at each sampling site during the compliance period beginning January 1, 1993.

(1) If the level of nitrite in a single sample is greater than the MCL, the water supplier shall proceed as for nitrate in accordance with paragraph (a)(1) of this section.

(2) The repeat monitoring frequency for systems with an analytical result for nitrite that is greater than or equal to 50 percent of the MCL shall be quarterly monitoring for at least one year. After four consecutive quarterly samples are less than the MCL, a system may request that the Department reduce monitoring frequency to annual sampling, collecting subsequent samples during the quarter which previously resulted in the highest analytical results.

(3) The repeat monitoring frequency for systems with an analytical result for nitrite that is less than 50 percent of the MCL shall be one sample during each compliance period (every three years).

(c) All public water systems shall determine compliance with the MCL for nitrate plus nitrite in Table 64431-A. If the level exceeds the MCL, the water supplier shall proceed as for nitrate in accordance with paragraphs (a)(1) through (a)(4) of this section.

§64432.2. Monitoring and Compliance - Asbestos.

(a) All community and nontransient-noncommunity water systems are required to monitor to determine compliance with the MCL for asbestos in Table 64431-A during the year designated by the Department of the first compliance period of each nine-year compliance cycle, beginning in the compliance period starting January 1, 1993. The Department will designate the year based on historical monitoring frequency and laboratory capacity.

(1) If a groundwater system is vulnerable to asbestos contamination solely in its source water, it shall collect one sample at every entry point to the distribution system which is representative of each water source after treatment and proceed in accordance with Subsections 64432(b)(2) through (d) and Subsections 64432(f) through (j).

(2) All approved surface water systems shall be designated vulnerable to asbestos contamination in their source waters. If a surface water system is vulnerable solely in its source water, it shall proceed as in paragraph (1) above.

(3) If a system is vulnerable to asbestos contamination due to leaching of asbestos-cement pipe, with or without vulnerability to asbestos contamination in its source water, it shall take one sample at a tap served by asbestos-cement pipe under conditions where asbestos contamination is most likely to occur.

(b) If the level of asbestos exceeds the MCL in Table 64431-A, the supplier shall report to the Department within 48 hours and monitor quarterly beginning in the next quarter after the violation occurred. A system may request that the Department reduce monitoring frequency to one sample every compliance cycle, pursuant to §64432(h).

(c) If a system is not vulnerable either to asbestos contamination in its source water or due to leaching of asbestos-cement pipe, it may apply to the Department for a waiver of the monitoring requirements in paragraphs (a)(1) through (3) of this section. The Department will determine the vulnerability of groundwater sources on the basis of historical monitoring data and possible influence of serpentine formations. Vulnerability due to leaching of asbestos-cement pipe will be determined by the Department on the basis of the presence of such pipe in the distribution system and evaluation of the corrosivity of the water. The period of the waiver shall be three years.

§64433. System Requirements and Exemptions.

(a) Any public water system with 10,000 service connections or more that does not have a fluoridation system shall install such a system pursuant to the requirements in this article if the Department identifies a source of sufficient funds not excluded by Health and Safety Code section 116415 to cover capital and any associated costs necessary to install such a system. Installation shall be completed within two years of the date the funds are received by the water system; the water system may apply to the Department for an extension of the deadline. Following installation, if the Department identifies a source of sufficient funds not excluded by Health and Safety Code section 116415 to cover the noncapital operations and maintenance costs for the period of a year or more, the system shall fluoridate within three months of receiving the funds and shall continue fluoridating so long as such funds are received.

(b) Any public water system with 10,000 service connections or more that has a fluoridation system but ceased fluoridating prior to December 31, 1995 shall fluoridate the drinking water if its fluoridation system is determined to be capable of fluoridating the drinking water in compliance with §64433.2, based on a Departmental review, and the Department identifies a

source of sufficient funds not excluded by Health and Safety Code section 116415 to cover the noncapital operations and maintenance costs for the period of a year or more. Such a system shall fluoridate within one month of receiving the funds and shall continue fluoridating so long as such funds are received.

(c) Any public water system required to install a fluoridation system pursuant to subsection (a) or required to fluoridate pursuant to subsection (b) shall annually submit an estimate of anticipated fluoridation operations and maintenance costs for the next fiscal year (July 1 through June 30) to the Department by the January 1 preceding that fiscal year.

(d) Any public water system with 10,000 service connections or more that has naturally-occurring fluoride and cannot demonstrate that it maintains an average annual fluoride level that is equal to or greater than the low level specified in the temperature-appropriate “control range” in Table 64433.2-A shall be subject to subsections (a) and (b).

(e) Any public water system which achieves 10,000 service connections or more subsequent to July 1, 1996, that does not have a fluoridation system, or that has naturally-occurring fluoride and meets the criteria in subsection (d) shall provide an estimate to the Department of capital and any associated costs necessary to install a fluoridation system within one year of achieving at least 10,000 service connections:

(f) Any public water system with 10,000 service connections or more shall be exempted from fluoridation in either of the following cases:

(1) The water system does not receive sufficient funds from a source identified by the Department and not excluded by Health and Safety Code section 116415 to cover the capital and associated costs needed to install a fluoridation system; or

(2) The water system received sufficient capital funds from a source identified by the Department and not excluded by Health and Safety Code section 116415 and subsequently installed a fluoridation system or the water system meets the criteria in subsection (b), and the water system did not receive sufficient funds from a source identified by the Department and not excluded by Health and Safety Code section 116415 to cover the noncapital operation and maintenance costs to fluoridate. The water system shall be exempted for any fiscal year (July 1 through June 30) for which it does not receive the funds for noncapital operation and maintenance costs.

§64433.2. Optimal Fluoride Levels.

Any public water system that is fluoridating shall comply with the temperature-appropriate fluoride levels in Table 64433.2-A. The system shall determine, and submit to the Department, its annual average of maximum daily air temperatures based on the five calendar years immediately preceding the current calendar year.

Table 64433.2-A
Optimal Fluoride Levels

<i>Annual average of maximum daily air temperatures, degrees</i>	<i>Optimal fluoride level,</i>	<i>Control Range, mg/L</i>	
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<i>mg/L</i>				
Fahrenheit	Celsius		Low	High
50.0 to 53.7	10.0 to 12.0	1.2	1.1	1.7
53.8 to 58.3	12.1 to 14.6	1.1	1.0	1.6
58.4 to 63.8	14.7 to 17.7	1.0	0.9	1.5
63.9 to 70.6	17.8 to 21.4	0.9	0.8	1.4
70.7 to 79.2	21.5 to 26.2	0.8	0.7	1.3
79.3 to 90.5	26.3 to 32.5	0.7	0.6	1.2

§64433.3. Monitoring and Compliance--Fluoride Levels.

(a) If a water system has a single fluoridation system which treats all the water distributed to consumers, the supplier shall collect a daily sample for fluoride analysis, pursuant to §64415(b), either in the distribution system or at the entry point. If a water system does not fluoridate all its water and/or has more than one fluoridation system, the supplier shall collect one sample daily in the distribution system and rotate the sample sites in order to be representative of the water throughout the distribution system according to a monitoring plan the Department has determined to be representative. For water systems fluoridating as of January 1, 1997, the plan shall be submitted by July 1, 1998. For all others, the plan shall be submitted prior to initiating fluoridation treatment. A water system shall monitor only when it is operating its fluoridation system.

(b) If more than 20 percent of the daily fluoride samples collected in a month by a water system pursuant to subsection (a) fall outside the control range of optimal levels as determined by temperature for that system pursuant to §64433.2, the system shall be out of compliance with §64433.2.

(c) At least once a month, any water supplier with an operating fluoridation system shall divide one sample and have one portion analyzed for fluoride by water system personnel and the other portion analyzed pursuant to §64415(a).

(d) Any water system with an operating fluoridation system shall sample the raw source waters annually and analyze for fluoride pursuant to §64415(a); samples collected pursuant to §64432(b)(1) may be used toward satisfying this requirement. All raw source water samples collected under this subsection are subject to compliance with the fluoride MCL in Table 64431-A.

(e) If any sample result obtained pursuant to subsection (a) does not fall within the temperature-appropriate fluoride level control range in Table 64433.2-A, the water supplier shall take action as detailed in the water system's approved fluoridation system operations contingency plan as specified in §64433.8.

§64433.5. Fluoridation System.

Each fluoridation system installed or modified after January 1, 1997, shall meet the following criteria, as a minimum:

(a) Operate only when a flow of water is detected. If the water system serves less than 200 service connections, a secondary flow-based control device shall be provided as back-up protection;

(b) Provide flow measuring and recording equipment for the fluoride addition;

(c) Provide design and reliability features to maintain the level of fluoride within the temperature-appropriate control range 95 per cent of the time;

(d) Provide for containment of spills; and

(e) Provide alarm features for fluoride chemical feed and fluoride spills.

§64433.7. Recordkeeping, Reporting, and Notification for Water Systems Fluoridating.

(a) By the tenth day of each month following the month being reported, each water supplier fluoridating its water supply shall send operational reports to the Department which include the following:

- (1) The fluoride compounds used and the calculated fluoride dose in mg/L;
- (2) Information on any interruptions in the fluoridation treatment which may have occurred during the month including the duration of the interruptions, an explanation of causes, and what corrective actions were taken to insure that fluoridation treatment was resumed in a timely manner;
- (3) The results of the daily monitoring for fluoride in the water distribution system, reported in terms of daily results, and ranges and the number of samples collected; and
- (4) The results of monthly split sample(s) analyzed pursuant to §64433.3(c).

(b) For water systems that fluoridated the previous fiscal year (July 1 through June 30), the water supplier shall report the operations and maintenance costs for that year to the Department by August 1.

(c) Whenever a water system initiates fluoridation, suspends fluoridation for more than ninety days, or reinitiates fluoridation after a suspension of more than ninety days, the water supplier shall notify the consumers, local health departments, pharmacists, dentists, and physicians in the area served by the water system, regarding the status of the fluoridation treatment. If a water system with more than one fluoridation system suspends the use of one or more of its fluoridation systems, but the level of fluoride being served to the consumers is in conformance with Table 64433.2-A, no notification shall be required.

(d) If a fluoride overfeed exceeding 10.0 mg/L occurs, the water system shall notify the Department by the end of the business day of the occurrence or within 24 hours if the Department office is closed.

(e) If the level of fluoride in the distribution system is found to be less than the control range in Table 64433.2-A in two or more samples in a month, the water system shall notify the Department within three business days of the second occurrence. If the level of fluoride in the

distribution system is found to be 0.1 mg/L or more above the control range up to 10.0 mg/L, the water supplier shall notify the Department within three business days of the occurrence.

§64433.8. Fluoridation System Operations Contingency Plan.

(a) Water systems fluoridating as of July 1, 1996 shall submit a fluoridation system operations contingency plan by July 1, 1998. All other water systems shall submit the plan at least three months before initiating fluoridation treatment. All fluoridating water systems shall operate in accordance with a fluoridation system operations contingency plan determined by the Department to include the elements in subsection (b).

(b) A fluoridation system operation contingency plan shall include, but not be limited to, the following elements:

(1) Actions to be implemented by the water supplier in the event that the fluoride level in a distribution system sample is found to be less than the control range in Table 64433.2-A, 0.1 mg/L above the control range up to a fluoride level of 2.0 mg/L, from 2.1 to a level of 4.0 mg/L, from 4.1 to a level of 10.0 mg/L, or above a level of 10.0 mg/L.

(2) The procedure for shutting down the fluoridation equipment if there is a fluoride overfeed and the need to do so is identified by the Department and/or the water supplier;

(3) The procedure for investigating the cause of an underfeed or overfeed;

(4) A list of water system, county health department, and Department personnel with day and evening phone numbers to be notified by the end of the business day of the occurrence or within 24 hours if the Department office is closed in the event of an overfeed exceeding 10.0 mg/L; and

(5) The procedure for notifying the public if instructed to do so by the Department in the event of a fluoride underfeed extending for more than three months or a fluoride overfeed exceeding 10.0 mg/L.

§64434. Water System Priority Funding Schedule.

Public water systems with 10,000 service connections or more that are not fluoridating as of July 1, 1996, shall install fluoridation systems and initiate fluoridation according to the order established in Table 64434-A, as the water systems receive funds from sources identified by the Department, pursuant to Health and Safety Code section 116415.

Table 64434-A
Water System Priority Funding Schedule

<i>System No.</i>	<i>System Name</i>	<i>Priority</i>
3710010	Helix Water District	1
5610017	Ventura, City of	2
4110013	Daly City, City of	3
3710006	Escondido, City of	4
4210011	Santa Maria, City of	5
3410009	Fair Oaks Water District	6
1910083	Manhattan Beach, City of	7
3710025	Sweetwater Authority	8
4210010	Santa Barbara, City of	9
0910001	El Dorado Irrigation District	10
3410006	Citrus Heights Water District	11
4410010	Santa Cruz, City of	12
3610039	San Bernardino, City of	13
3310009	Eastern Municipal Water District	14
3710037	Padre Dam Municipal Water District	15
1910067	Los Angeles, City of	16
2810003	Napa, City of	17
3710020	San Diego, City of	18
3710034	Otay Water District	19
3310031	Riverside, City of	20
1910173	Whittier, City of	21
3410020	Sacramento, City of	22
1910139	California American Water Company - San Marino	23
3710021	San Dieguito Water District	24
3610024	Hesperia Water District	25
1910179	Burbank, City of	26
2710004	California American Water Company - Monterey	27
3310049	Western Municipal Water District	28
3010073	Moulton Niguel Water District	29
3010101	Santa Margarita Water District	30
1910239	Lakewood, City of	31
2110003	North Marin Water District	32
3010037	Yorba Linda Water District	33

<i>System No.</i>	<i>System Name</i>	<i>Priority</i>
3710015	Poway, City of	34
3110025	Placer County Water Agency	35
5010010	Modesto, City of	36
1910126	Pomona, City of	37
3410004	Carmichael Water District	38
1910043	Glendale, City of	39
3610018	Cucamonga Community Water District	40
3910011	Tracy, City of	41
1910234	Walnut Valley Water District	42
3910012	Stockton, City of	43
1910146	Santa Monica, City of	44
3710027	Vista Irrigation District	45
3010018	La Habra, City of	46
1910009	Valley County Water District	47
3310012	Elsinore Valley Municipal Water District	48
1910051	Inglewood, City of	49
3710005	Carlsbad Municipal Water District	50
4210004	Goleta Water District	51
1910213	Torrance, City of	52
1910152	South Gate, City of	53
1910155	Southern California Water Company - Southwest	54
1510017	Indian Wells Valley Water District	55
1910039	San Gabriel Valley Water Company - El Monte	56
1610003	Hanford, City of	57
3310037	Corona, City of	58
3010062	Garden Grove, City of	59
3610003	Apple Valley Ranchos Water Community	60
3610036	Chino Hills, City of	61
3010064	Westminster, City of	62
4310011	San Jose Water Company	63
3610012	Chino, City of	64
3910004	Lodi, City of	65
5610007	Oxnard, City of	66
1910019	Cerritos, City of	67
1910205	Suburban Water Systems - San Jose Hills	68
1910059	Suburban Water Systems - La Mirada	69
1910092	Monterey Park, City of	70
1910174	Suburban Water Systems - Whittier	71
1910026	Compton, City of	72
1910124	Pasadena, City of	73
3310022	Lake Hemet Municipal Water District	74
1910142	Southern California Water Company - San Dimas	75
4510005	Redding, City of	76

<i>System No.</i>	<i>System Name</i>	<i>Priority</i>
3610037	Redlands, City of	77
3910005	Manteca, City of	78
3710014	Oceanside, City of	79
3610038	Rialto, City of	80
4310022	Great Oaks Water Company	81
4310014	Sunnyvale, City of	82
3310021	Jurupa Community Services District	83
3410001	Arcade- Town & County	84
3610052	Victor Valley Water District	85
3010023	Newport Beach, City of	86
3610064	East Valley Water District	87
1910225	Las Virgenes Municipal Water District	88
3710001	California American Water Company - Coronado	89
3610034	Ontario, City of	90
3910001	California Water Service Company - Stockton	91
1910033	Dominguez Water Agency	92
5410015	Tulare, City of	93
5710006	Woodland, City of	94
3710029	Olivenhain Municipal Water District	95
1910003	Arcadia, City of	96
1910008	Azusa Valley Water Company	97
4410011	Watsonville, City of	98
3010003	Buena Park, City of	99
4310005	Milpitas, City of	100
1910017	Santa Clarita Water Company	101
1910240	Valencia Water Company	102
3610004	West San Bernardino Water District	103
0910002	South Tahoe Public Utilities District	104
5610059	Southern California Water Company - Simi Valley	105
3010027	Orange, City of	106
5410010	Porterville, City of	107
4410017	Soquel Creek Water District	108
4110023	San Bruno, City of	109
1910001	Alhambra, City of	110
3010022	Southern California Water Company-West Orange County	111
3010091	Los Alisos Water District	112
3610050	Upland, City of	113
3410024	Northridge Water District	114
1010003	Clovis, City of	115
3010004	Mesa Consolidated Water District	116
3610041	San Gabriel Valley Water Company - Fontana	117

<i>System No.</i>	<i>System Name</i>	<i>Priority</i>
3410010	Citizens Utilities Company of California - Suburban	118
3010038	Santa Ana, City of	119
3010092	Irvine Ranch Water District	120
1910211	Park Water Company - Bellflower	121
3010010	Fullerton, City of	122
4310007	Mountain View, City of	123
3010036	San Clemente, City of	124
3010079	El Toro Water District	125
5610020	Thousand Oaks, City of	126
3610029	Monte Vista Water District	127
1910004	Southern California Water Company - Artesia	128
4210016	Southern California Water Company - Orcutt	129
4110008	California Water Service Company - San Mateo	130
1310038	Rancho California Water District	131
3410017	Citizens Utilities Company of California - Parkway	132
1910024	Southern California Water Company - Claremont	133
1910044	Glendora, City of	134
3010001	Anaheim, City of	135
5710001	Davis, City of	136
1910134	California Water Service Company-Hermosa/Redondo	137
1010007	Fresno, City of	138
1910102	Palmdale Water District	139
4310012	Santa Clara, City of	140
2710010	California Water Service Company - Salinas	141
4910006	Petaluma, City of	142
1910036	California Water Service Company - East Los Angeles	143
3410013	Citizens Utilities Company of California - Lincoln Oaks	144
3310001	Coachella Valley Water District	145
5010019	Turlock, City of	146
5410016	California Water Service Company - Visalia	147
5610023	Waterworks District 8-Simi Valley	148
0410002	California Water Service Company - Chico	149
1910104	California Water Service Company - Palos Verdes	150
3410015	Southern California Water Company - Corodva	151
4910009	Santa Rosa, City of	152
1910194	Rowland Water District	153
1510003	California Water Service Company - Bakersfield	154
5610040	California American Water Company - Village District	155
3310005	Desert Water Agency	156
0110003	California Water Service Company - Livermore	157
3010046	Tustin, City of	158
4310001	California Water Service Company - Los Altos Suburban	159
4110007	California Water Service Company - San Carlos	160

1910070	Los Angeles, County Water Works District 4&34- Lancaster	161
1510031	Bakersfield, City of	162
4110009	California Water Service Company - South San Francisco	163
3010053	Huntington Beach, City of	164
4110006	California Water Service Company - Bear Gulch	165
1910034	Downey, City of	166
4110022	Redwood City	167

ARTICLE 4.5. TRIHALOMETHANES**§64439. Requirements.**

Community water systems shall comply with the National Interim Primary Drinking Water Regulations for the control of Trihalomethanes in Drinking Water, Sections 141.2(p), (q), (r), (s) and (t), 141.6, 141.12 and 141.30 of Title 40, Code of Federal Regulations, as published in the November 29, 1979, Federal Register (Vol. 44, No. 231) and revised in the March 11, 1980, Federal Register (Vol. 45, No. 49).

ARTICLE 5. RADIOACTIVITY**§64441. Natural Radioactivity.**

(a) All community water systems shall monitor their water supplies for radium-226, radium-228 and uranium at least once every four years. Compliance with maximum radioactivity levels shall be based on the average of the analysis of four consecutive quarterly samples.

(b) Gross alpha particle measurement may be substituted for measurement of radium-226 and radium-228.

(1) The supply is considered to be in compliance with maximum radioactivity levels if the gross alpha particle activity does not exceed 5 picocuries per liter (pCi/l).

(2) If gross alpha activity exceeds 5 pCi/l, measurement of radium-226 shall be made.

(3) If radium-226 exceeds 3 pCi/l, measurement of radium-228 shall be made.

(4) The sum of the radium-226 and radium-228 shall not exceed 5 pCi/l.

(c) If the average maximum contaminant level for gross alpha particle activity, total radium or uranium exceeds the levels shown on Table 4, the water supplier shall report this information to the Department within 48 hours.

§64443. Man-Made Radioactivity.

Water systems with greater than 30,000 service connections and using surface water sources shall monitor their water supplies for tritium, strontium-90 and gross beta particle activity at least once every four years.

(a) The average concentration of beta particle activity and photon radioactivity from man-made radionuclides in drinking water shall not produce an annual dose equivalent to the total body or any internal organ greater than four millirem/year.

(b) Compliance with this requirement is assumed if the average concentration of gross beta particle activity is less than 50 pCi/l and if the average concentration of tritium and strontium-90 are less than those listed on Table 4.

(c) If the gross beta particle activity exceeds 50 pCi/l, an analysis of the sample shall be performed to identify the major radioactive constituent present and the appropriate organ and total body doses shall be calculated.

(d) The water supplier shall report information on sample results that exceed the maximum contaminant levels to the Department within 48 hours.

Table 4

MCL Radioactivity

<i>Constituent</i>	<i>Maximum Contaminant Level, pCi/l</i>
Combined Radium-226 and Radium-228	5
Gross Alpha particle activity (including Radium-226 but excluding Radon and Uranium)	15
Tritium	20,000
Strontium-90	8
Gross Beta particle activity	50
Uranium	20

ARTICLE 5.5. PRIMARY STANDARDS -- ORGANIC CHEMICALS**§64444. Maximum Contaminant Levels – Organic Chemicals.**

The MCLs for the primary drinking water chemicals shown in Table 64444-A shall not be exceeded in the water supplied to the public.

Table 64444-A
Maximum Contaminant Levels
Organic Chemicals

<i>Chemical</i>	<i>Maximum Contaminant Level, mg/L</i>
(a) Volatile Organic Chemicals (VOCs)	
Benzene.	0.001
Carbon Tetrachloride	0.0005
1,2-Dichlorobenzene.	0.6
1,4-Dichlorobenzene.	0.005
1,1-Dichloroethane	0.005
1,2-Dichloroethane	0.0005
1,1-Dichloroethylene	0.006
cis-1,2-Dichloroethylene	0.006
trans-1,2-Dichloroethylene	0.01
Dichloromethane.	0.005
1,2-Dichloropropane.	0.005
1,3-Dichloropropene.	0.0005
Ethylbenzene.	0.7
Methyl- <i>tert</i> -butyl ether	0.013
Monochlorobenzene.	0.07
Styrene.	0.1
1,1,2,2-Tetrachloroethane.	0.001
Tetrachloroethylene.	0.005
Toluene.	0.15
1,2,4-Trichlorobenzene	0.07
1,1,1-Trichloroethane.	0.200
1,1,2-Trichloroethane.	0.005
Trichloroethylene.	0.005
Trichlorofluoromethane.	0.15
1,1,2-Trichloro-1,2,2-Trifluoroethane.	1.2
Vinyl Chloride.	0.0005
Xylenes.	1.750*

Table 64444-A (continued)
Maximum Contaminant Levels
Organic Chemicals

<i>Chemical</i>	<i>Maximum Contaminant Level, mg/L</i>
(b) Non-Volatile Synthetic Organic Chemicals (SOCs)	
Alachlor.	0.002
Atrazine.	0.003
Bentazon.	0.018
Benzo(a)pyrene.	0.0002
Carbofuran.	0.018
Chlordane.	0.0001
2,4-D.	0.07
Dalapon.	0.2
Dibromochloropropane.	0.0002
Di(2-ethylhexyl)adipate.	0.4
Di(2-ethylhexyl)phthalate.	0.004
Dinoseb.	0.007
Diquat.	0.02
Endothall.	0.1
Endrin.	0.002
Ethylene Dibromide.	0.00005
Glyphosate.	0.7
Heptachlor.	0.00001
Heptachlor Epoxide.	0.00001
Hexachlorobenzene.	0.001
Hexachlorocyclopentadiene.	0.05
Lindane.	0.0002
Methoxychlor.	0.04
Molinate.	0.02
Oxamyl.	0.2
Pentachlorophenol.	0.001
Picloram.	0.5
Polychlorinated Biphenyls.	0.0005
Simazine.	0.004
Thiobencarb.	0.07
Toxaphene.	0.003
2,3,7,8-TCDD (Dioxin).	3×10^{-8}
2,4,5-TP (Silvex).	0.05

*MCL is for either a single isomer or the sum of the isomers.

§64445. Initial sampling - organic chemicals

(a) Each community and nontransient-noncommunity water system shall collect four quarterly samples during the year designated by the Department of each compliance period beginning with the compliance period starting January 1, 1993, from each water source at a site prior to any treatment and test for all applicable organic chemicals listed in Table 64444-A. The Department will designate the year based on historical monitoring frequency and laboratory capacity. For surface sources, the samples shall be taken at each water intake. For groundwater sources, the samples shall be taken at each well head. Where multiple intakes or wells draw from the same water supply, the Department will consider sampling of representative sources as a means of complying with this section. Selection of representative sources shall be based on evidence which includes a hydrogeological survey and sampling results. Wells shall be allowed to flow for a minimum of 15 minutes before sampling to insure that the samples reflect the water quality of the source. In place of water source samples, a supplier may collect samples at sites located at the entry points to the distribution system. The samples shall be representative of each source after treatment. The system shall collect each sample at the same sampling site, unless a change is approved by the Department.

(b) For any organic chemical added to Table 64444-A, the water system shall initiate the quarterly monitoring for that chemical in January of the calendar year after the effective date of the MCL.

(c) A water system may request approval from the Department to composite samples from up to five sampling sites, provided that the number of the sites to be composited is less than the ratio of the MCL to the DLR in §64445.1. Approval will be based on a review of three years of historical data, well construction and aquifer information for groundwater, and intake location, similarity of sources, and watershed characteristics for surface water. Compositing shall be done in the laboratory and analyses shall be conducted within 14 days of sample collection.

(1) Systems serving more than 3,300 persons shall composite only from sampling sites within a single system. Systems serving 3,300 persons or less may composite among different systems up to the 5-sample limit.

(2) If any organic chemical is detected in the composite sample, a follow-up sample shall be analyzed within 14 days from each sampling site included in the composite for the contaminants which were detected. The water supplier shall report the results to the Department within 14 days of the follow-up sample collection. If available, duplicates of the original sample taken from each sampling site used in the composite may be used instead of resampling.

(d) A water system may apply to the Department for a monitoring waiver for one or more of the organic chemicals on Table 64444-A in accordance with the following:

(1) A source may be eligible for a waiver if it can be documented that the chemical has not been previously used, manufactured, transported, stored, or disposed of within the watershed or zone of influence and therefore, that the source can be designated nonvulnerable.

(2) If previous use of the chemical locally is unknown or the chemical is known to have been used previously and the source cannot be designated nonvulnerable pursuant to Paragraph (d)(1), it may still be eligible for a waiver based on a review related to susceptibility to contamination. The application to the Department for a waiver based on susceptibility shall include the following:

(A) Previous monitoring results;
(B) user population characteristics;
(C) proximity to sources of contamination;
(D) surrounding land uses;
(E) degree of protection of the water source;
(F) environmental persistence and transport of the chemical in water, soil and air;
(G) elevated nitrate levels at the water supply source; and
(H) historical system operation and maintenance data including previous Departmental inspection results.

(3) To apply for a monitoring waiver for VOCs, the water system shall have completed the initial four quarters of monitoring pursuant to subsection (a) or three consecutive years of monitoring with no VOCs detected. If granted a waiver for VOC monitoring, a system using groundwater shall collect a minimum of one sample from every sampling site every six years and a system using surface water shall not be required to monitor for the term of the waiver. The term of a VOC waiver shall not exceed three years.

(4) To obtain a monitoring waiver for one or more of the SOC(s), the water system may apply before doing the initial round of monitoring or shall have completed three consecutive years of annual monitoring with no detection of the SOC(s) listed. If the system is granted a waiver for monitoring for one or more SOC(s), no monitoring for the waived SOC(s) shall be required for the term of the waiver, which shall not exceed three years.

(e) For water sources designated by a water supplier as standby sources, the water supplier shall sample each source for any organic chemical added to Table 64444-A once within the three-year period beginning in January of the calendar year after the effective date of the MCL.

(f) Water quality data collected prior to January 1, 1988, for VOCs, or January 1, 1990, for SOC(s), and/or data collected in a manner inconsistent with this section shall not be used in the determination of compliance with the monitoring requirements for organic chemicals.

(g) Data (i.e., a single sample) collected in a manner consistent with this section after January 1, 1998 in which no MTBE is detected, along with a designation of nonvulnerability pursuant to subsection (d), may be used to satisfy the initial monitoring requirements in subsection (a). If the requirements are satisfied in this way by a water system, the system shall begin annual monitoring pursuant to Section 64445.1(b)(1).

(h) Water quality data collected in compliance with the monitoring requirements of this section by a wholesaler agency providing water to a public water system shall be acceptable for use by that system for compliance with the monitoring requirements of this section.

§64445.1. Monitoring and Compliance – Organic Chemicals.

(a) For the purposes of this article, detection shall be defined by the detection limits for purposes of reporting (DLRs) in Table 64445.1-A:

Table 64445.1-A
Detection Limits for Purposes of Reporting (DLRs)
for Regulated Organic Chemicals

<i>Chemical</i>	<i>Detection Limit for Purposes of Reporting (DLR)(mg/L)</i>
(a) All VOCs, except as listed.	0.0005
Methyl- <i>tert</i> -butyl ether	0.003
Trichlorofluoromethane	0.005
1,1,2-Trichloro-1,2,2-Trifluoroethane	0.01
(b) SOCs	
Alachlor.	0.001
Atrazine.	0.001
Bentazon.	0.002
Benzo(a)pyrene.	0.0001
Carbofuran.	0.005
Chlordane.	0.0001
2,4-D.	0.01
Dalapon.	0.01
Dibromochloropropane (DBCP).	0.00001
Di(2-ethylhexyl)adipate.	0.005
Di(2-ethylhexyl)phthalate.	0.003
Dinoseb.	0.002
Diquat.	0.004
Endothall.	0.045
Endrin.	0.0001
Ethylene dibromide (EDB).	0.00002
Glyphosate.	0.025
Heptachlor.	0.00001
Heptachlor epoxide.	0.00001
Hexachlorobenzene.	0.0005
Hexachlorocyclopentadiene.	0.001
Lindane.	0.0002
Methoxychlor.	0.01
Molinate.	0.002
Oxamyl.	0.02
Pentachlorophenol.	0.0002
Picloram.	0.001
Polychlorinated biphenyls (PCBs) (as decachlorobiphenyl).	0.0005

<i>Chemical</i>	<i>Detection Limit for Purposes of Reporting (DLR)(mg/L)</i>
Simazine.	0.001
Thiobencarb.	0.001
Toxaphene.	0.001
2,3,7,8-TCDD (Dioxin).	5×10^{-9}
2,4,5-TP (Silvex).	0.001

(b) When organic chemicals are not detected pursuant to Table 64445.1-A.

(1) A water system which has not detected any of the VOCs on Table 64444-A during the initial four quarters of monitoring, shall collect and analyze one sample annually. After a minimum of three years of annual sampling with no detection of a VOC in Table 64444-A, a system using groundwater may reduce the monitoring frequency to one sample during each compliance period. A system using surface water shall continue monitoring annually.

(2) A system serving more than 3,300 persons which has not detected an SOC on Table 64444-A during the initial four quarters of monitoring shall collect a minimum of two quarterly samples for that SOC in one year during the year designated by the Department of each subsequent compliance period. The year will be designated on the basis of historical monitoring frequency and laboratory capacity.

(3) A system serving 3,300 persons or less which has not detected an SOC on Table 64444-A during the initial four quarters of monitoring shall collect a minimum of one sample for that SOC during the year designated by the Department of each subsequent compliance period. The year will be designated on the basis of historical monitoring frequency and laboratory capacity.

(c) When organic chemicals are detected pursuant to Table 64445.1-A.

(1) Prior to proceeding with the requirements of paragraphs (c)(2) through (7), the water supplier may first confirm the analytical result, as follows: Within seven days from the notification of an initial finding from a laboratory reporting the presence of one or more organic chemicals in a water sample, the water supplier shall collect one or two additional sample(s) to confirm the initial finding. Confirmation of the initial finding shall be shown by the presence of the organic chemical in either the first or second additional sample, and the detected level of the contaminant for compliance purposes shall be the average of the initial and confirmation sample(s). The initial finding shall be disregarded if two additional samples do not show the presence of the organic chemical.

(2) If one or both of the related organic chemicals heptachlor and heptachlor epoxide are detected, subsequent monitoring shall analyze for both chemicals until there has been no detection of either chemical for one compliance period.

(3) A groundwater sampling site at which one or more of the following chemicals has been detected shall be monitored quarterly for vinyl chloride: trichloroethylene, tetrachloroethylene, 1,2-dichloroethane, 1,1,1-trichloroethane, cis-1,2-dichloroethylene, trans-1,2-dichloroethylene, or 1,1-dichloroethylene. If vinyl chloride is not detected in the first quarterly

sample, the sampling site shall be monitored once for vinyl chloride during each compliance period.\

(4) If the detected level of organic chemicals for any sampling site does not exceed any shown in Table 64444-A, the water source shall be resampled every three months and the samples analyzed for the detected chemicals. After one year of sampling an approved surface water system or two quarters of sampling a groundwater system, the Department will consider allowing the water supplier to reduce the sampling to once per year upon request, based on a review of previous sampling data. Systems shall monitor during the quarter(s) which previously yielded the highest analytical results.

(5) If the detected level of an organic chemical for any sampling site exceeds that listed in Table 64444-A, the water supplier shall report this information to the Department within 48 hours. Unless use of the contaminated source is discontinued, the water supplier shall resample the contaminated source as follows:

(A) Water systems serving more than 3,300 persons shall sample monthly for six months and shall submit the results to the Department as specified in §64451(a). A water source shall be deemed to be in compliance with §64444 if the average concentration of the initial finding, confirmation sample(s), and six subsequent monthly samples does not exceed the MCL shown in Table 64444-A. In such cases, the water supplier may reduce the sampling frequency to once every three months. If the average annual concentration of four quarterly samples exceeds the MCL, the water source shall be deemed to be in violation of §64444. If any sample would cause the annual average to exceed the MCL, then the system is out of compliance immediately.

(B) Water systems serving 3,300 persons or less shall sample quarterly for one year and shall submit the results to the Department as specified in §64451(a). Compliance with §64444 shall be based on the average concentration of the initial finding, confirmation sample(s) if collected, and three subsequent quarterly samples. If any sample would cause the annual average to exceed the MCL, then the system is out of compliance immediately. If the average concentration does not exceed the MCL in Table 64444-A, the water supplier may reduce the sampling frequency to once every year during the quarter that previously yielded the highest analytical result. If the average concentration exceeds the MCL in Table 64444-A, the water system shall be deemed to be in violation of §64444. Subsequently, compliance shall be determined on the basis of a running annual average of the most recent four quarters of sample results.

(6) If any resample, other than those taken in accordance with (c)(5) of this section, of a water sampling site shows that the concentration of any organic chemical exceeds a MCL shown in Table 64444-A, the water supplier shall proceed in accordance with (c)(1) and (c)(4), or (c)(5).

(7) If an organic chemical is detected and the concentration exceeds ten times the MCL, the water supplier shall notify the Department within 48 hours of the receipt of the results and the contaminated site shall be resampled within 48 hours to confirm the result. The water supplier shall notify the Department of the result of the confirmation sample(s) within 24 hours of the receipt of the confirmation result(s).

(A) If the average concentration of the original and confirmation sample(s) is less than ten times the MCL, the water supplier shall proceed in accordance with subsection (c)(5).

(B) If the average concentration of the original and confirmation samples exceeds ten times the MCL, use of the contaminated water source shall immediately be discontinued. Such a water source shall not be returned to service without written approval from the Department.

§64445.2. Sampling of Treated Water Sources.

(a) Each water supplier utilizing treatment to comply with any MCL for an organic chemical listed in Table 64444-A shall collect monthly samples of the treated water at a site prior to the distribution system. If the treated water exceeds the MCL, the water supplier shall resample the treated water to confirm the result and report the result to the Department within 48 hours of the confirmation.

(b) The Department will consider requiring more frequent monitoring based on an evaluation of (1) the treatment process used, (2) the treatment effectiveness and efficiency, and (3) the concentration of the organic chemical in the water source.

ARTICLE 12. BEST AVAILABLE TECHNOLOGIES (BAT)

§64447. Best available technologies (BAT) – Microbiological Contaminants.

The technologies identified by the Department as the best available technology, treatment techniques, or other means available for achieving compliance with the total coliform MCL are as follows:

(a) Protection of wells from coliform contamination by appropriate placement and construction;

(b) Maintenance of a disinfectant residual throughout the distribution system;

(c) Proper maintenance of the distribution system; and

(d) Filtration and/or disinfection of approved surface water, in compliance with Section 64650, or disinfection of groundwater.

§64447.2. Best available technologies (BAT) - inorganic chemicals

The technologies listed in Table 64447.2-A are the best available technology, treatment techniques, or other means available for achieving compliance with the MCLs in table 64431-A for inorganic chemicals.

Table 64447.2-A
Best Available Technologies (BAT)
Inorganic Chemicals

<i>Chemical</i>	<i>Best Available Technologies (BATs)</i>
Aluminum	10
Antimony	2, 7
Arsenic	1, 2, 5, 6, 7
Asbestos	2, 3, 8
Barium	5, 6, 7, 9
Beryllium	1, 2, 5, 6, 7
Cadmium	2, 5, 6, 7
Chromium	2, 5, 6 ^a , 7
Cyanide	5, 7, 11
Fluoride	1
Mercury	2 ^b , 4, 6 ^b , 7 ^b
Nickel	5, 6, 7
Nitrate	5, 7, 9
Nitrite	5, 7
Selenium	1, 2 ^c , 6, 7, 9
Thallium	1, 5

^aBAT for Chromium III only.

^bBAT only if influent mercury concentrations <10 ug/L.

^cBAT for Selenium IV only.

Key to BATs in Table 64447.2:

- 1 = Activated Alumina
- 2 = Coagulation/Filtration (not BAT for systems < 500 service connections)
- 3 = Direct and Diatomite Filtration
- 4 = Granular Activated Carbon
- 5 = Ion Exchange
- 6 = Lime Softening (not BAT for systems < 500 service connections)
- 7 = Reverse Osmosis
- 8 = Corrosion Control
- 9 = Electrodialysis
- 10 = Optimizing treatment and reducing aluminum added
- 11 = Chlorine oxidation

§64447.4. Best Available Technologies (BATs) - Organic Chemicals

The technologies listed in Table 64447.4-A are the best available technology, treatment technologies, or other means available for achieving compliance with the MCLs in Table 64444-A for organic chemicals.

Table 64447.4-A
Best Available Technologies (BATs)
Organic Chemicals

<i>Chemical</i>	<i>Best Available Technologies</i>		
	Granular Activated Carbon	Packed Tower Aeration	Oxidation
(a) Volatile Organic Chemicals (VOCs)			
Benzene	X	X	
Carbon Tetrachloride	X	X	
1,2-Dichlorobenzene	X	X	
1,4-Dichlorobenzene	X	X	
1,1-Dichloroethane	X	X	
1,2-Dichloroethane	X	X	
1,1-Dichloroethylene	X	X	
cis-1,2-Dichloroethylene	X	X	
trans-1,2-Dichloroethylene	X	X	
Dichloromethane		X	
1,2-Dichloropropane	X	X	
1,3-Dichloropropene	X	X	
Ethylbenzene	X	X	
Methyl- <i>tert</i> -butyl ether		X	
Monochlorobenzene	X	X	
Styrene	X	X	
1,1,2,2-Tetrachloroethane	X	X	
Tetrachloroethylene	X	X	
Toluene	X	X	
1,2,4-Trichlorobenzene	X	X	
1,1,1-Trichloroethane	X	X	
1,1,2-Trichloroethane	X	X	
Trichlorofluoromethane	X	X	
Trichlorotrifluoroethane	X	X	
Trichloroethylene	X	X	
Vinyl Chloride		X	

Chemical

	<i>Best Available Technology</i>		
	Granular Activated Carbon	Packed Tower Aeration	Oxidaton
Xylenes	X	X	
(b) Synthetic Organic Chemicals (SOCs)			
Alachlor	X	X	
Atrazine	X		
Bentazon		X	
Benzo(a)pyrene	X		
Carbofuran	X		
Chlordane	X		
2,4-D	X		
Dalapon	X		
Di(2-ethylhexyl)adipate	X	X	
Dinoseb	X		
Diquat	X		
1,2-Dibromo-3-chloropropane	X	X	
Di(2-ethylhexyl)phthalate	X		
Endothall	X		
Endrin	X		
Ethylene Dibromide	X	X	
Glyphosate			X
Heptachlor	X		
Heptachlor epoxide	X		
Hexachlorobenzene	X		
Hexachlorocyclopentadiene	X	X	
Lindane	X		
Methoxychlor	X		
Molinate	X		
Oxamyl	X		
Picloram	X		
Pentachlorophenol	X		
Polychlorinated Biphenyls	X		
Simazine	X		
Thiobencarb	X		
Toxaphene	X	X	
2,3,7,8-TCDD (Dioxin)	X		
2,4,5-TP (Silvex)	X		

ARTICLE 14. TREATMENT TECHNIQUES**§64448. Treatment Technique Requirements.**

(a) A public water system which uses acrylamide and/or epichlorohydrin in drinking water treatment shall certify annually in writing to the Department that the combination of dose and monomer does not exceed the following levels:

(1) Acrylamide: 0.05% monomer in polyacrylamide dosed at 1 mg/L, or equivalent.

(2) Epichlorohydrin: 0.01% residual of epichlorohydrin dosed at 20 mg/L, or equivalent.

ARTICLE 16. SECONDARY DRINKING WATER STANDARDS**§64449. Secondary Maximum Contaminant Levels and Compliance.**

(a) The secondary MCLs shown in Tables 64449-A and 64449-B shall not be exceeded in the water supplied to the public, because these constituents may adversely affect the taste, odor or appearance of drinking water.

Table 64449-A
Secondary Maximum Contaminant Levels
Consumer Acceptance Limits

<i>Constituents</i>	<i>Maximum Contaminant Levels/Units</i>
Aluminum	0.2 mg/L
Color	15 Units
Copper	1.0 mg/L
Corrosivity	Non-corrosive
Foaming Agents (MBAS)	0.5 mg/L
Iron	0.3 mg/L
Manganese	0.05 mg/L
Methyl-tert-butyl ether (MTBE)	0.005 mg/L
Odor--Threshold	3 Units
Silver	0.1 mg/L
Thiobencarb	0.001 mg/L
Turbidity	5 Units
Zinc	5.0 mg/L

Table 64449-B
Secondary Maximum Contaminant Levels -- Ranges

<i>Maximum Contaminant Level Ranges</i>			
<i>Constituent, Units</i>	<i>Recommended</i>	<i>Upper</i>	<i>Short Term</i>
Total Dissolved	500	1,000	1,500
Solids, mg/L or Specific	900	1,600	2,200
Conductance, micromhos			

Chloride, mg/L	250	500	600
Sulfate, mg/L	250	500	600

(b) The secondary MCLs listed in Table 64449-A shall not be exceeded in:

- (1) New community water systems.
- (2) New sources developed for existing community water systems.
- (3) Existing community water systems.

(c) Community groundwater systems shall monitor every three years and approved surface water systems shall monitor annually for the following:

- (1) Secondary MCLs listed in Tables 64449-A and 64449-B; and
- (2) Bicarbonate, carbonate, and hydroxide alkalinity, calcium, magnesium, sodium, and total hardness.

(d) In existing community water systems, if any MCL in Table 64449-A is exceeded, the water supplier may be required, following an investigation by the Department, to conduct a study.

- (1) The investigation by the Department shall determine the extent of:
 - (A) Noncompliance with the MCLs.
 - (B) Consumer dissatisfaction which is based upon the secondary drinking water standards.
- (2) The study conducted by the water supplier shall:
 - (A) Be conducted in a manner and in accordance with a schedule acceptable to the Department and be completed in a period of time not to exceed one year.
 - (B) Be made by persons acceptable to the Department.
 - (C) Determine the degree of consumer acceptance of the water supply.
 - (D) Investigate the causes and methods of correction, and estimate the cost of one or more alternative solutions.
- (3) The results of the study conducted by the water supplier shall be made available to the:
 - (A) Users at an appropriately noticed public meeting.
 - (B) Department.
 - (C) Public Utilities Commission, if appropriate.

(e) The requirements of (b)(2) and (3) may be waived by the Department following the completion of an investigation as required in (d) based upon, but not necessarily limited to:

- (1) Consumer acceptance of water not meeting the MCLs shown in Table 64449-A.
- (2) Economic considerations.

(f) For the constituents shown on Table 64449-B, no fixed consumer acceptance contaminant level has been established.

- (1) Constituent concentrations lower than the Recommended contaminant level are desirable for a higher degree of consumer acceptance.

(2) Constituent concentrations ranging to the Upper contaminant level are acceptable if it is neither reasonable nor feasible to provide more suitable waters.

(3) Constituent concentrations ranging to the Short Term contaminant level are acceptable only for existing systems on a temporary basis pending construction of treatment facilities or development of acceptable new water sources.

(g) New services from systems serving water which carries constituent concentrations between the Upper and Short Term contaminant levels shall be approved only:

(1) If adequate progress is being demonstrated toward providing water of improved mineral quality.

(2) For other compelling reasons approved by the Department.

(h) A water system may apply to the Department for a waiver from the monitoring frequencies specified in subsection (c), if the system has conducted at least three rounds of monitoring (three periods for groundwater sources or three years for approved surface water sources) and these analytical results are less than the MCLs. The water system shall specify the basis for its request. A system with a waiver shall collect a minimum of one sample per source while the waiver is in effect and the term of the waiver shall not exceed one compliance cycle (i.e., nine years).

(i) Nontransient-noncommunity and transient-noncommunity water systems shall monitor for bicarbonate, carbonate, and hydroxide alkalinity, calcium, iron, magnesium, manganese, -pH, sodium, and total hardness, as follows:

(1) All systems shall monitor all sources at least once.

(2) Surface water sources for parks and other facilities with an average daily population use of more than 1000 people and/or which are determined to be subject to potential contamination based on a sanitary survey shall be monitored at the same frequency as community water systems.

§64449.5. Distribution System Physical Water Quality.

(a) The water supplier shall determine the physical water quality in the distribution system. This determination shall be based on one or more of the following:

(1) Main flushing operations and flushing records.

(2) Consumer complaint records showing location, nature and duration of the physical water quality problem.

(3) Other pertinent data relative to physical water quality in the distribution system.

(b) If the Department determines that a water system does not have sufficient data on physical water quality in the distribution system to make the determination required in paragraph (a), the water supplier shall collect samples for the following general physical analyses: color, odor, and turbidity. Samples shall be collected from representative points in the distribution system:

(1) For community water systems with 200 to 1,000 service connections: one sample per month.

(2) For community water systems with greater than 1,000 service connections: one sample for every four bacteriological samples required per month.

(3) For community water systems with less than 200 service connections: as established by the local health officer or the Department.

(c) Odor samples required as a part of general physical analyses may be examined in the field as per Section 64415(b).

(d) The distribution system water of public water systems shall be free from significant amounts of particulate matter.

ARTICLE 17. SPECIAL MONITORING REQUIREMENTS FOR UNREGULATED CHEMICALS

§64450. Unregulated chemicals – Monitoring.

(a) Community water systems and nontransient-noncommunity water systems shall monitor for the chemicals in table 64450, pursuant to subsection (b):

Table 64450
Unregulated Chemicals

<i>Chemical</i>	<i>Synonyms</i>
(1) Boron	
(2) Chromium VI	Hexavalent chromium
(3) Dichlorodifluoromethane	Difluorodichloromethane
(4) Ethyl-tert-butyl ether	ETBE
(5) Perchlorate	
(6) tert-Amyl-methyl ether	TAME
(7) tert-Butyl alcohol	TBA
(8) 1,2,3-Trichloropropane	TCP
(9) Vanadium	

(b) All vulnerable community and nontransient-noncommunity water systems shall conduct and complete one round of monitoring for hexavalent chromium by December 31, 2002, and for the other unregulated chemicals in table 64450 by December 31, 2003. Monitoring shall be conducted by collecting source water samples, or samples from the distribution entry points that are representative of typical operating conditions. At least one of the samples shall be collected during the period from May 1 through July 31 (vulnerable time), unless the Department specifies a different vulnerable time for the water system due to seasonal conditions related to use, manufacture and/or weather. Monitoring shall be as follows:

(1) Surface water systems shall collect four quarterly samples at each sample site; the system shall select either the first, second, or third month of a quarter and sample in that same month of each of four consecutive quarters.

(2) Ground water systems shall collect two samples in a single year, five to seven months apart.

(3) The water system shall collect each sample at the same sampling site, unless a change is approved by the Department.

(c) A water system may apply to the Department for a monitoring waiver for one or more of the chemicals on table 64450 in accordance with sections 64445(d)(1) and (2).

(d) If a system serves fewer than 150 service connections, it may be eligible for an exemption from the monitoring requirements of this section, based on a Departmental review of the previous five years of sampling data. To request an exemption, the system operator shall submit a written request to the Department that includes a statement that the system is available for sampling by the Department.

(e) A water system that has monitoring data collected after January 1, 1998, that meets the requirements in subsection (b) may use that data to comply with the monitoring requirements in this section.

ARTICLE 18. RECORDS AND REPORTING

§64451. Reporting Requirements.

(a) Analytical results of all sample analyses completed in a calendar month shall be reported to the Department no later than the tenth day of the following month.

(b) Analytical results of all sample analyses completed by water wholesalers in a calendar month shall be reported to retail customers and the Department no later than the tenth day of the following month.

(c) Analytical results shall be reported to the Department electronically using the Electronic Deliverable Format as defined in The Electronic Deliverable Format [EDF] Version 1.2i Guidelines & Restrictions dated April 2001 and Data Dictionary dated April 2001.

§64453. Record Maintenance.

(a) Each water supplier shall maintain records on all water quality and system water outage complaints, both verbal and written, received and corrective action taken. These records shall be retained for a period of five years for Department review.

(b) Each water supplier shall retain, on or at a convenient location near the water utility premises, records as indicated below:

(1) Records of bacteriological analyses for at least the 5 most recent years and chemical analyses for at least the most recent 10 years. Actual laboratory reports may be kept, or data may be transferred to tabular summaries, provided that the following information is included:

(A) The date, place and time of sampling and identification of the person who collected the sample.

(B) Identification of the sample as a routine sample, check sample, raw or finished water or other special sample.

(C) Date of Report.

(D) Name of the laboratory and either the person responsible for performing the analysis or the laboratory director.

(E) The analytical technique or method used.

(F) The results of the analysis.

(2) Records and resultant corrective actions shall be kept not less than three years following the final action taken to correct a particular violation.

(3) Copies of any written reports, summaries or communications relating to sanitary surveys of the system conducted by the water supplier, a private consultant or any local, state or federal agency, for not less than 10 years following completion of the sanitary survey involved.

(4) Variances or exemptions granted to the system, for not less than five years following the expiration of such variance or exemption.

ARTICLE 19. NOTIFICATION OF THE DEPARTMENT AND WATER CONSUMERS

§64463.2. Reporting and Notification of Unregulated Organic Chemicals Monitoring.

(a) The owner or operator of a community water system or a non-transient, non-community water system shall notify persons served by the system of the availability of results of monitoring conducted pursuant to Article 5.7 by including a notice in the first set of water bills issued by the system after the receipt of the results or, in any case, by written notice within three months. The notice shall identify a person and supply the telephone number to contact for information on the monitoring results.

(b) The owner or operator of a community water system or a non-transient, non-community water system shall send a copy of results of monitoring conducted pursuant to Article 5.7 within 30 days of receipt and any public notice pursuant to subsection (a) to the Department.

§64464.1. Notification Methods.

(a) When a water supplier is required to provide notice pursuant to section 64464.3, or 64464.6, or 64465, then the notice shall be provided using one or more of the following methods as directed by the Department pursuant to sections 64464.3, 64464.6, or 64465:

(1) Method 1 (Electronic Media Notice) - Notice shall be given by furnishing a copy of the notice to the radio and television stations broadcasting in the area served by the system, as soon as possible but in no case later than 24 hours after being directed to do so by the Department.

(2) Method 2 (Daily Newspaper Notice of Water Quality Failure) - Notice shall be given once within 14 days after the violation or failure by publication in a daily newspaper of general circulation in the area served by the system.

(3) Method 3 (Weekly Newspaper Notice of Water Quality Failure) - Notice shall be given once within 14 days after the violation or failure by publication in a weekly newspaper of general circulation serving the area.

(4) Method 4 (Mail Delivery of Notice of Water Quality Failure) - Notice by direct mail or with the water bill shall be given once within 45 days after the violation or

failure. The Department may waive the requirement for mail delivery if it determines that the violation or failure has been corrected within the 45 day period. If such a waiver is given it shall be given in writing within the 45 day period. Repeat notice by mail shall be given at least once every 3 months for as long as the violation or failure continues.

(5) Method 5 (Hand Delivery of Notice of Water Quality Failure) - Notice by hand delivery shall be given once within 45 days after the violation or failure. The Department may waive the requirement for hand delivery if it determines that the violation has been corrected within the 45 day period. If such a waiver is given it shall be given in writing within the 45 day period. Repeat notice by hand delivery shall be given at least once every 3 months for as long as the violation or failure continues.

(6) Method 6 (Expedited Hand Delivery of Notice of Water Quality Failure) - Notice by hand delivery shall be given once within 14 days after the violation or failure. Repeat notice by hand delivery shall be given at least once every 3 months for as long as the violation or failure continues.

(7) Method 7 (Continuous Posting of Notice of Water Quality Failure) - Notice by posting in conspicuous places within the area served by the system shall be initiated within 14 days after the violation or failure. Posting shall continue for as long as the violation or failure exists.

(8) Method 8 (Daily Newspaper Notice of Procedural Failure) - Notice shall be given once within three months of the violation or failure by publication in a daily newspaper of general circulation in the area served by the system.

(9) Method 9 (Weekly Newspaper Notice of Procedural Failure) - Notice shall be given once within three months of the violation or failure by publication in a weekly newspaper of general circulation serving the area.

(10) Method 10 (Mail Delivery of Notice of Procedural Failure) - Notice by direct mail or with the water bill shall be given at least once every three months for as long as the violation or failure continues.

(11) Method 11 (Hand Delivery of Notice of Procedural Failure) - Notice by hand delivery shall be given once within three months of the violation or failure. Repeat notice by hand delivery shall be given at least once every three months for as long as the violation or failure continues.

(12) Method 12 (Continuous Posting of Notice of Procedural Failure) - Notice by posting in conspicuous places within the area served by the system shall be initiated within 3 months of the violation or failure. Posting shall continue for as long as the violation or failure exists.

§64464.3. Public Notification - Water Quality Failure.

(a) Unless otherwise directed by the Department, the water supplier shall notify the Department and the persons served by the water system whenever any of the following occurs:

(1) The water supplied to the consumers exceeds the bacteriological quality limits specified in Section 64426.1, or exceeds the MCLs for inorganic chemicals, nitrate, turbidity, trihalomethanes, radioactivity, or organic chemicals as specified in Sections 64431, 64439, 64441, 64443, and 64444.

(2) The water supplier fails to comply with a prescribed treatment technique established in lieu of an MCL.

(3) The water supplier violates any schedule prescribed pursuant to a variance or exemption.

(b) The notice to the public required pursuant to paragraph (a) shall be given in accordance with the following methods which are described in 64464.1:

(1) For community water systems:

(A) By Method 2, and by Method 4 or 5; or

(B) If the Department finds that there is no daily newspaper of general circulation serving the area served by the system, by Method 3 and by Method 4 or 5; or

(C) If the Department finds that there is no daily or weekly newspaper of general circulation serving the area served by the system, then by Method 6 or 7 as directed by the Department based on the degree of health risk and the nature of the population served by the system;

(D) If the Department finds that, based on the degree of health risk and the nature of the population served, additional notification is necessary, then it may direct the community water system to carry out such notification required to adequately alert the public to the risk.

(2) For nontransient-noncommunity and transient-noncommunity water systems:

(A) By Method 2 and by Method 4 or 5; or

(B) If the Department finds that there is no daily newspaper in general circulation serving the area served by the water system, then by Method 3 and by Method 4 or 5; or

(C) By Method 6 or 7;

(D) If the Department finds that, based on the degree of health risk and the nature of the population served, additional notification is necessary, then it may direct the nontransient-noncommunity or transient-noncommunity water system to carry out such notification required to adequately alert the public to the risk.

§64464.6. Public Notification - Procedural Failure.

(a) Unless otherwise directed by the Department, the water supplier shall notify the Department and the persons served by the water system whenever any of the following occurs:

(1) The water supplier fails to take and report the required number of bacteriological samples in accordance with an approved sample siting plan pursuant to Section 64422 and as specified in Sections 64423 and 64424 or fails to take and report the required number of inorganic chemical, organic chemical or radiological samples as specified in Sections 64432, 64432.1, 64432.2, 64439, 64441, 64443, 64445, 64445.1, 64445.2, and 64450.1; or

(2) The water supplier or its agent fails to comply with a testing procedure prescribed in 40 CFR part 141; or

(3) The water supplier is operating under a variance or exemption.

(b) The notice to the public required pursuant to paragraph (a) shall be given in accordance with the following methods, which are described in 64464.1:

(1) For community water systems:

(A) By Method 8 and by either Method 10 or 11; or

(B) If the Department finds that there is no daily newspaper of general circulation serving the area served by the system, then by Method 9 and by either Method 10 or 11; or

(C) If the Department finds that there is no daily or weekly newspaper of general circulation serving the area served by the system, then by Method 11 or 12 as directed by the Department based on the degree of health risk and the nature of the population served by the system;

(D) If the Department finds that, based on the degree of health risk and the nature of the population served, additional notification is necessary, then it may direct the community water system to carry out such notification required to adequately alert the public to the risk.

(2) For nontransient-noncommunity and transient-noncommunity water systems:

(A) By Method 8 and either Method 10 or 11; or

(B) If the Department finds that there is no daily newspaper in general circulation serving the area served by the water system, then by Method 9 and either Method 10 or 11; or

(C) By Method 11 or 12.

(D) If the Department finds that, based on the degree of health risk and the nature of the population served, additional notification is necessary, then it may direct the nontransient-noncommunity or transient-noncommunity water system to carry out such notification required to adequately alert the public to the risk.

§64465. Notification of An Acute Health Risk.

When the Department determines that the presence of any contaminant occurs at a level posing an acute risk to human health pursuant to Section 64400, the water supplier of a community water system shall give notice to persons served by the system by Section 64464.1(a) - Method 1.

§64466. Notification of New Users.

The water supplier shall give a copy of the most recent public notice required pursuant to section 64464.3 for any continuing violation or continuing failure of any primary drinking water standard, water treatment technique, or any variance or exemption schedule to all new billing units or new hookups prior to or at the time service begins.

§64467. Notice.

Any notice provided by the water supplier pursuant to Section 64464.3 or Section 64464.6 shall provide a clear and readily understandable explanation of the violation, the potential adverse health effects of contaminants present, the population at risk, the steps that the water supplier is taking to correct the violation, the necessity for seeking alternative water supplies, and any preventive measures the consumers should take until the violation is corrected. The notice shall be conspicuous and not contain unduly

technical language, unduly small print or similar problems that frustrate the purpose of the notice. Each notice shall include a telephone number of the water supplier or designee to be contacted for obtaining additional information concerning the notice. When appropriate or directed by the Department, the notice shall be multilingual.

§64467.5. Wholesaler.

Public notification that involves a wholesaler and retailer water supply relationship shall be given by the retail water supplier unless the retailer makes arrangement for the wholesaler to provide the notification.

§64468.1. Health Effects Language -- Inorganic Chemicals.

Pursuant to Section 64467, the explanation of potential adverse health effects for inorganic chemicals shall include the following mandatory language for the designated contaminants:

(a) Antimony: “The California Department of Health Services (DHS) sets drinking water standards and has determined that antimony is a health concern at certain levels of exposure. This inorganic chemical occurs naturally in soils, ground water and surface waters and is often used in the flame retardant industry. It is also used in ceramics, glass, batteries, fireworks and explosives. It may get into drinking water through natural weathering of rock, industrial production, municipal waste disposal or manufacturing processes. This chemical has been shown to decrease longevity, and altered blood levels of cholesterol and glucose in laboratory animals such as rats exposed to high levels during their lifetimes. DHS has set the drinking water standard for antimony at 0.006 part per million (ppm) to protect against the risk of these adverse health effects. Drinking water which meets the DHS standard is associated with little to none of this risk and should be considered safe with respect to antimony.”

(b) Asbestos: “The California Department of Health Services (DHS) sets drinking water standards and has determined that asbestos fibers greater than 10 micrometers in length are a health concern at certain levels of exposure. Asbestos is a naturally occurring mineral. Most asbestos fibers in drinking water are less than 10 micrometers in length and occur in drinking water from natural sources and from corroded asbestos-cement pipes in the distribution system. The major uses of asbestos were in the production of cements, floor tiles, paper products, paint, and caulking; in transportation-related applications; and in the production of textiles and plastics. Asbestos was once a popular insulating and fire retardant material. Inhalation studies have shown that various forms of asbestos have produced lung tumors in laboratory animals. The available information on the risk of developing gastrointestinal tract cancer associated with the ingestion of asbestos from drinking water is limited. Ingestion of intermediate-range chrysotile asbestos fibers greater than 10 micrometers in length is associated with causing benign tumors in male rats. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. DHS has set the drinking water standard for asbestos at 7 million long fibers per liter to reduce the potential risk of cancer or other adverse health effects which have been observed in laboratory animals. Drinking water which meets the DHS standard is associated with little to none of this risk and should be considered safe with respect to asbestos.”

(c) Barium: “The California Department of Health Services (DHS) sets drinking water standards and has determined that barium is a health concern at certain levels of exposure. This inorganic chemical occurs naturally in some aquifers that serve as sources of ground water. It is also used in oil and gas drilling muds, automotive paints, bricks, tiles and jet fuels. It generally gets into drinking water after dissolving from naturally occurring minerals in the ground. This chemical may damage the heart and cardiovascular system, and is associated with high blood pressure in laboratory animals such as rats exposed to high levels during their lifetimes. In humans, DHS believes that effects from barium on blood pressure should not occur below 2 parts per million (ppm) in drinking water. DHS has set the drinking water standard for barium at 1 part per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the DHS standard is associated with little to none of this risk and is considered safe with respect to barium.”

(d) Beryllium: “The California Department of Health Services (DHS) sets drinking water standards and has determined that beryllium is a health concern at certain levels of exposure. This inorganic metal occurs naturally in soils, ground water and surface waters and is often used in electrical equipment and electrical components. It generally gets into water from runoff from mining operations, discharge from processing plants and improper water disposal. Beryllium compounds have been associated with damage to the bones and lungs and induction of cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. There is limited evidence to suggest that beryllium may pose a cancer risk via drinking water exposure. Therefore, DHS based the health assessment on noncancer effects with an extra uncertainty factor to account for possible carcinogenicity. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. DHS has set the drinking water standard for beryllium at 0.004 part per million (ppm) to protect against the risk of these adverse health effects. Drinking water which meets the DHS standard is associated with little to none of this risk and should be considered safe with respect to beryllium.”

(e) Cadmium: “The California Department of Health Services (DHS) sets drinking water standards and has determined that cadmium is a health concern at certain levels of exposure. Food and the smoking of tobacco are common sources of general exposure. This inorganic metal is a contaminant in the metals used to galvanize pipe. It generally gets into water by corrosion of galvanized pipes or by improper waste disposal. This chemical has been shown to damage the kidney in animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Some industrial workers who were exposed to relatively large amounts of this chemical during working careers also suffered damage to the kidney. DHS has set the drinking water standard for cadmium at 0.005 part per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the DHS standard is associated with little to none of this risk and is considered safe with respect to cadmium.”

(f) Chromium: “The California Department of Health Services (DHS) sets drinking water standards and has determined that chromium is a health concern at certain levels of exposure. This inorganic metal occurs naturally in the ground and is often used in the electroplating of metals. It generally gets into water from runoff from old mining operations and improper waste disposal from plating operations. This chemical has been shown to damage the kidney, nervous system, and the circulatory system of laboratory animals such as rats and mice when the animals are exposed at high levels. Some humans who were exposed to high levels of this chemical suffered liver and kidney damage, dermatitis and respiratory problems. DHS has set the drinking water standard for chromium at 0.05 part per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the DHS standard is associated with little to none of this risk and is considered safe with respect to chromium.”

(g) Copper: “The California Department of Health Services (DHS) sets drinking water standards and has determined that copper is a health concern at certain exposure levels. Copper, a reddish-brown metal, is often used to plumb residential and commercial structures that are connected to water distribution systems. Copper contaminating drinking water as a corrosion by-product occurs as the result of the corrosion of copper pipes that remain in contact with water for a prolonged period of time. Copper is an essential nutrient, but at high doses it has been shown to cause stomach and intestinal distress, liver and kidney damage, and anemia. Persons with Wilson's disease may be at a higher risk of health effects due to copper than the general public. DHS' primary drinking water regulation requires all public water systems to install optimal corrosion control to minimize copper contamination resulting from the corrosion of plumbing materials. Public water systems serving 50,000 people or fewer that have copper concentrations below 1.3 parts per million (ppm) in more than 90 percent of tap water samples (the “action level”) are not required to install or improve their treatment. Any water system that exceeds the action level shall also monitor their source water to determine whether treatment to remove copper in source water is needed.”

(h) Cyanide: “The California Department of Health Services (DHS) sets drinking water standards and has determined that cyanide is a health concern at certain levels of exposure. This inorganic chemical is used in electroplating, steel processing plastics, synthetic fabrics and fertilizer products. It usually gets into water as a result of improper waste disposal. This chemical has been shown to damage the spleen, brain and liver of humans fatally poisoned with cyanide. DHS has set the drinking water standard for cyanide at 0.2 part per million (ppm) to protect against the risk of these adverse health effects. Drinking water which meets the DHS standard is associated with little to none of this risk and should be considered safe with respect to cyanide.”

(i) Lead: “The California Department of Health Services (DHS) sets drinking water standards and has determined that lead is a health concern at certain exposure levels. Materials that contain lead have frequently been used in the construction of water supply distribution systems, and plumbing systems in private homes and other buildings. The most commonly found materials include service lines, pipes, brass and bronze fixtures, and solders and fluxes. Lead in these materials can contaminate drinking water as a result

of the corrosion that takes place when water comes into contact with those materials. Lead can cause a variety of adverse health effects in humans. At relatively low levels of exposure, these effects may include interference with red blood cell chemistry, delays in normal physical and mental development in babies and young children, slight deficits in the attention span, hearing, and learning abilities of children, and slight increases in the blood pressure of some adults. DHS' primary drinking water regulation requires all public water systems to optimize corrosion control to minimize lead contamination resulting from the corrosion of plumbing materials. Public water systems serving 50,000 people or fewer that have lead concentrations below 15 parts per billion (ppb) in more than 90 percent of tap water samples (the "action level") have optimized their corrosion control treatment. Any water system that exceeds the action level shall also monitor their source water to determine whether treatment to remove lead in source water is needed. Any water system that continues to exceed the action level after installation of corrosion control and/or source water treatment shall eventually replace all lead service lines contributing in excess of 15 ppb of lead to drinking water. Any water system that exceeds the action level shall also undertake a public education program to inform consumers of ways they can reduce their exposure to potentially high levels of lead in drinking water."

(j) Mercury: "The California Department of Health Services (DHS) sets drinking water standards and has determined that mercury is a health concern at certain levels of exposure. This inorganic metal is used in electrical equipment and some water pumps. It usually gets into water as a result of improper waste disposal. This chemical has been shown to damage the kidney of laboratory animals such as rats when the animals are exposed at high levels over their lifetimes. DHS has set the drinking water standard for mercury at 0.002 part per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the DHS standard is associated with little to none of this risk and is considered safe with respect to mercury."

(k) Nickel: "The California Department of Health Services (DHS) sets drinking water standards and has determined that nickel poses a health concern at certain levels of exposure. This inorganic metal occurs naturally in soils, ground water and surface waters and is often used in electroplating, stainless steel and alloy products. It generally gets into water from mining and refining operations. This chemical has been shown to damage the heart and liver in laboratory animals when the animals are exposed to high levels over their lifetimes. DHS has set the drinking water standard to 0.1 part per million (ppm) for nickel to protect against the risk of these adverse effects. Drinking water which meets the DHS standard is associated with little to none of this risk and should be considered safe with respect to nickel."

(l) Nitrate: "The California Department of Health Services (DHS) sets drinking water standards and has determined that nitrate poses an acute health concern at certain levels of exposure. Nitrate is used in fertilizer and is found in sewage and wastes from human and/or farm animals and generally gets into drinking water from those activities. Excessive levels of nitrate in drinking water have caused serious illness and sometimes death in infants under six months of age. The serious illness in infants is caused because nitrate is converted to nitrite in the body. Nitrite interferes with the oxygen carrying

capacity of the child's blood. This is an acute disease in that symptoms can develop rapidly in infants. In most cases, health deteriorates over a period of days. Symptoms include shortness of breath and blueness of the skin. Clearly, expert medical advice should be sought immediately if these symptoms occur. The purpose of this notice is to encourage parents and other responsible parties to provide infants with an alternate source of drinking water. Local and State health authorities are the best sources for information concerning alternate sources of drinking water for infants. DHS has set the drinking water standard at 10 parts per million (ppm) nitrate as nitrogen (equivalent to the 45 parts per million nitrate as nitrate drinking water standard) to protect against the risk of these adverse effects. DHS has also set a drinking water standard for nitrite at 1 ppm. To allow for the fact that the toxicity of nitrate and nitrite are additive, DHS has also established a standard for the sum of nitrate and nitrite at 10 ppm as nitrogen. Drinking water that meets the DHS standard is associated with little to none of this risk and is considered safe with respect to nitrate.”

(m) Nitrite: “The California Department of Health Services (DHS) sets drinking water standards and has determined that nitrite poses an acute health concern at certain levels of exposure. This inorganic chemical is used in fertilizers and is found in sewage and wastes from humans and/or farm animals and generally gets into drinking water as a result of those activities. While excessive levels of nitrite in drinking water have not been observed, other sources of nitrite have caused serious illness and sometimes death in infants under six months of age. The serious illness in infants is caused because nitrite interferes with the oxygen carrying capacity of the child's blood. This is an acute disease in that symptoms can develop rapidly. However, in most cases, health deteriorates over a period of days. Symptoms include shortness of breath and blueness of the skin. Clearly, expert medical advice should be sought immediately if these symptoms occur. The purpose of this notice is to encourage parents and other responsible parties to provide infants with an alternate source of drinking water. Local and State health authorities are the best sources for information concerning alternate sources of drinking water for infants. DHS has set the drinking water standard at 1 part per million (ppm) as nitrogen for nitrite to protect against the risk of these adverse effects. DHS has also set a drinking water standard for nitrate (converted to nitrite in humans) at 10 ppm and for the sum of nitrate and nitrite at 10 ppm. Drinking water that meets the DHS standard is associated with little to none of this risk and is considered safe with respect to nitrite.”

(n) Selenium: “The California Department of Health Services (DHS) sets drinking water standards and has determined that selenium is a health concern at certain high levels of exposure. Selenium is also an essential nutrient at low levels of exposure. This inorganic chemical is found naturally in food and soils and is used in electronics, photocopy operations, the manufacture of glass, chemicals, drugs, and as a fungicide and a feed additive. In humans, exposure to high levels of selenium over a long period of time has resulted in a number of adverse health effects, including a loss of feeling and control in the arms and legs. DHS has set the drinking water standard for selenium at 0.05 part per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the DHS standard is associated with little to none of this risk and is considered safe with respect to selenium.”

(o) Thallium: "The California Department of Health Services (DHS) sets drinking water standards and has determined that thallium is a health concern at certain high levels of exposure. This inorganic metal is found naturally in soils and is used in electronics, pharmaceuticals, and the manufacture of glass and alloys. This chemical has been shown to damage the kidney, liver, brain and intestines of laboratory animals when the animals are exposed at high levels over their lifetimes. DHS has set the drinking water standard for thallium at 0.002 part per million (ppm) to protect against the risk of these adverse health effects. Drinking water which meets the DHS standard is associated with little to none of this risk and should be considered safe with respect to thallium."

§64468.2. Health effects language - volatile organic chemicals

Pursuant to Section 64467, the explanation of potential adverse health effects for volatile organic chemicals shall include the following mandatory language for the designated contaminants:

(a) Benzene: "The California Department of Health Services (DHS) sets drinking water standards and has determined that benzene is a health concern at certain levels of exposure. This chemical is used as a solvent and degreaser of metals. It is also a major component of gasoline. Drinking water contamination generally results from leaking underground gasoline and petroleum tanks or improper waste disposal. This chemical has been associated with significantly increased risks of leukemia among certain industrial workers who were exposed to relatively large amounts of this chemical during their working careers. This chemical has also been shown to cause cancer in laboratory animals when the animals are exposed at high levels over their lifetimes. Chemicals that cause increased risk of cancer among exposed industrial workers and in laboratory animals also may increase the risk of cancer in humans who are exposed at lower levels over long periods of time. DHS has set the enforceable drinking water standard for benzene at 0.001 part per million (ppm) to reduce the risk of cancer or other adverse health effects which have been observed in humans and laboratory animals. Drinking water which meets this standard is associated with little to none of this risk and should be considered safe."

(b) Carbon tetrachloride: "The California Department of Health Services (DHS) sets drinking water standards and has determined that carbon tetrachloride is a health concern at certain levels of exposure. This chemical was once a popular household cleaning fluid. It generally gets into drinking water by improper waste disposal. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed at lower levels over long periods of time. DHS has set the enforceable drinking water standard for carbon tetrachloride at 0.0005 part per million (ppm) to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. Drinking water which meets this standard is associated with little to none of this risk and should be considered safe."

(c) 1,2-Dichlorobenzene: "The California Department of Health Services (DHS) sets drinking water standards and has determined that ortho-dichlorobenzene is a health concern at certain levels of exposure. This organic chemical is used as a solvent in the production of pesticides and dyes. It generally gets into water by improper waste disposal. This chemical has been shown to damage the liver, kidney and the blood cells of laboratory animals such as rats and mice exposed to high levels during their lifetimes. Some industrial workers who were exposed to relatively large amounts of this chemical during working careers also suffered damage to the liver, nervous system, and circulatory system. DHS has set the drinking water standard for ortho-dichlorobenzene at 0.6 part per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the DHS standard is associated with little to none of this risk and is considered safe with respect to ortho-dichlorobenzene."

(d) para-Dichlorobenzene: "The California Department of Health Services (DHS) sets drinking water standards and has determined that para-dichlorobenzene is a health concern at certain levels of exposure. This chemical is a component of deodorizers, moth balls, and pesticides. It generally gets into drinking water by improper waste disposal. This chemical has been shown to cause liver and kidney damage in laboratory animals such as rats and mice when the animals are exposed to high levels of their lifetimes. Chemicals which cause adverse effects in laboratory animals also may cause adverse health effects in humans who are exposed at lower levels over long periods of time. DHS has set the enforceable drinking water standard for para-dichlorobenzene at 0.005 part per million (ppm) to reduce the risk of these adverse effects which have been observed in laboratory animals. Drinking water which meets this standard is associated with little to none of this risk and should be considered safe."

(e) 1,2-Dichloroethane: "The California Department of Health Services (DHS) sets drinking water standards and has determined that 1,2-dichloroethane is a health concern at certain levels of exposure. This chemical is used as a cleaning fluid for fats, oils, waxes, and resins. It generally gets into drinking water from improper waste disposal. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed at lower levels over long periods of time. DHS has set the enforceable drinking water standard for 1,2-dichloroethane at 0.0005 part per million (ppm) to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. Drinking water which meets this standard is associated with little to none of this risk and should be considered safe."

(f) 1,1-Dichloroethylene: "The California Department of Health Services (DHS) sets drinking water standards and has determined that 1,1-dichloroethylene is a health concern at certain levels of exposure. This chemical is used in industry and is found in drinking water as a result of the breakdown of related solvents. The solvents are used as cleaners and degreasers of metals and generally get into drinking water by improper waste disposal. This chemical has been shown to cause liver and kidney damage in laboratory animals such as rats and mice when the animals are exposed at high levels over their

lifetimes. Chemicals which cause adverse effects in laboratory animals also may cause adverse health effects in humans who are exposed at lower levels over long periods of time. DHS has set the enforceable drinking water standard for 1,1-dichloroethylene at 0.006 part per million (ppm) to reduce the risk of these adverse health effects which have been observed in laboratory animals. Drinking water which meets this standard is associated with little to none of this risk and should be considered safe."

(g) *cis*-1,2-Dichloroethylene: "The California Department of Health Services (DHS) sets drinking water standards and has determined that *cis*-1,2-dichloroethylene is a health concern at certain levels of exposure. This organic chemical is used as a solvent and intermediate in chemical production. It generally gets into water by improper waste disposal. This chemical has been shown to damage the liver, nervous system, and circulatory system of laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Some humans who were exposed to relatively large amounts of this chemical also suffered damage to the nervous system. DHS has set the drinking water standard for *cis*-1,2-dichloroethylene at 0.006 part per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the DHS standard is associated with little to none of this risk and is considered safe with respect to *cis*-1,2-dichloroethylene."

(h) *trans*-1,2-Dichloroethylene: "The California Department of Health Services (DHS) sets drinking water standards and has determined that *trans*-1,2-dichloroethylene is a health concern at certain levels of exposure. This organic chemical is used as a solvent and intermediate in chemical production. It generally gets into water by improper waste disposal. This chemical has been shown to damage the liver, nervous system, and the circulatory system of laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Some humans who were exposed to relatively large amounts of this chemical also suffered damage to the nervous system. DHS has set the drinking water standard for *trans*-1,2-dichloroethylene at 0.01 part per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the DHS standard is associated with little to none of this risk and is considered safe with respect to *trans*-1,2-dichloroethylene."

(i) Dichloromethane: "The California Department of Health Services (DHS) sets drinking water standards and has determined that dichloromethane (methylene chloride) is a health concern at certain levels of exposure. This organic chemical is a widely used solvent. It is used in the manufacture of paint remover, as a metal degreaser and as an aerosol propellant. It generally gets into drinking water after improper discharge of waste disposal. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. DHS has set the drinking water standard for dichloromethane at 0.005 part per million (ppm) to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. Drinking water which meets this standard is associated with little to none of this risk and should be considered safe with respect to dichloromethane."

(j) 1,2-Dichloropropane: "The California Department of Health Services (DHS) sets drinking water standards and has determined that 1,2-dichloropropane is a health concern at certain levels of exposure. This organic chemical is used as a solvent and pesticide. When soil and climatic conditions are favorable, 1,2-dichloropropane may get into drinking water by runoff into surface water or by leaching into ground water. It may also get into drinking water through improper waste disposal. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. DHS has set the drinking water standard for 1,2-dichloropropane at 0.005 part per million (ppm) to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. Drinking water that meets the DHS standard is associated with little to none of this risk and is considered safe with respect to 1,2-dichloropropane."

(k) Ethylbenzene: "The California Department of Health Services (DHS) sets drinking water standards and has determined that ethylbenzene is a health concern at certain levels of exposure. This organic chemical is a major component of gasoline. It generally gets into water by improper waste disposal or leaking gasoline tanks. This chemical has been shown to damage the kidney, liver, and nervous system of laboratory animals such as rats exposed to high levels during their lifetimes. DHS has set the drinking water standard for ethylbenzene at 0.7 part per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the DHS standard is associated with little to none of this risk and is considered safe with respect to ethylbenzene."

(l) Methyl-*tert*-butyl ether: "The California Department of Health Services (DHS) sets drinking water standards and has determined that Methyl-*tert*-butyl ether (MTBE) is a health concern at certain levels of exposure. This organic chemical is used in gasoline and in chemical laboratories. It generally gets into water from leaking underground gasoline storage tanks and pipelines. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. DHS has set the drinking water standard for MTBE at 0.013 parts per million (ppm) to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. Drinking water that meets the DHS standard is associated with little to none of this risk and is considered safe with respect to MTBE."

(m) Monochlorobenzene: "The California Department of Health Services (DHS) sets drinking water standards and has determined that monochlorobenzene is a health concern at certain levels of exposure. This organic chemical is used as a solvent. It generally gets into water by improper waste disposal. This chemical has been shown to damage the liver, kidney and nervous system of laboratory animals such as rats and mice exposed to high levels during their lifetimes. DHS has set the drinking water standard for monochlorobenzene at 0.07 parts per million (ppm) to protect against the risk of these

adverse health effects. Drinking water that meets the DHS standard is associated with little to none of this risk and is considered safe with respect to monochlorobenzene."

(n) Styrene: "The California Department of Health Services (DHS) sets drinking water standards and has determined that styrene is a health concern at certain levels of exposure. This organic chemical is commonly used to make plastics and is sometimes a component of resins used for drinking water treatment. Styrene may get into drinking water from improper waste disposal. This chemical has been shown to damage the liver and nervous system in laboratory animals when exposed at high levels during their lifetimes. DHS has set the drinking water standard for styrene at 0.1 part per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the DHS standard is associated with little to none of this risk and is considered safe with respect to styrene."

(o) Tetrachloroethylene: "The California Department of Health Services (DHS) sets drinking water standards and has determined that tetrachloroethylene is a health concern at certain levels of exposure. This organic chemical has been a popular solvent, particularly for dry cleaning. It generally gets into drinking water by improper waste disposal. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. DHS has set the drinking water standard for tetrachloroethylene at 0.005 part per million (ppm) to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. Drinking water that meets the DHS standard is associated with little to none of this risk and is considered safe with respect to tetrachloroethylene."

(p) Toluene: "The California Department of Health Services (DHS) sets drinking water standards and has determined that toluene is a health concern at certain levels of exposure. This organic chemical is used as a solvent and in the manufacture of gasoline for airplanes. It generally gets into water by improper waste disposal or leaking underground storage tanks. This chemical has been shown to damage the kidney, nervous system, and circulatory system of laboratory animals such as rats and mice exposed to high levels during their lifetimes. Some industrial workers who were exposed to relatively large amounts of this chemical during working careers also suffered damage to the liver, kidney and nervous system. DHS has set the drinking water standard for toluene at 0.15 part per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the DHS standard is associated with little to none of this risk and is considered safe with respect to toluene."

(q) 1,2,4-Trichlorobenzene: "The California Department of Health Services (DHS) sets drinking water standards and has determined that 1,2,4-trichlorobenzene is a health concern at certain levels of exposure. This organic chemical is used as a dye carrier and as a precursor in herbicide manufacture. It generally gets into drinking water by discharges from industrial activities. This chemical has been shown to cause damage to several organs, including the adrenal glands. DHS has set the drinking water standard for

1,2,4-trichlorobenzene 0.07 part per million (ppm) to protect against the risk of these adverse health effects. Drinking water which meets the DHS standard is associated with little to none of this risk and should be considered safe with respect to 1,2,4-trichlorobenzene."

(r) 1,1,1-Trichloroethane: "The California Department of Health Services (DHS) sets drinking water standards and has determined that 1,1,1-trichloroethane is a health concern at certain levels of exposure. This chemical is used as a cleaner and degreaser of metals. It generally gets into drinking water by improper waste disposal. This chemical has been shown to damage the liver, nervous system, and circulatory system of laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Some industrial workers who were exposed to relatively large amounts of this chemical during their working careers also suffered damage to the liver, nervous system, and circulatory system. Chemicals which cause adverse effects among exposed industrial workers and in laboratory animals also may cause adverse health effects in humans who are exposed at lower levels over long periods of time. DHS has set the enforceable drinking water standard for 1,1,1-trichloroethane at 0.2 part per million (ppm) to protect against the risk of these adverse health effects which have been observed in humans and laboratory animals. Drinking water which meets this standard is associated with little to none of this risk and should be considered safe with respect to 1,1,1-trichloroethane."

(s) 1,1,2-Trichloroethane: "The California Department of Health Services (DHS) sets drinking water standards and has determined that 1,1,2-trichloroethane is a health concern at certain levels of exposure. This organic chemical is an intermediate in the production of 1,1-dichloroethylene. It generally gets into water by industrial discharges of wastes. This chemical has been shown to damage the kidney and liver of laboratory animals such as rats exposed to high levels during their lifetimes. DHS has set the drinking water standard for 1,1,2-trichloroethane at 0.005 part per million (ppm) to protect against the risk of these adverse health effects. Drinking water which meets the DHS standard is associated with little to none of this risk and should be considered safe with respect to 1,1,2-trichloroethane."

(t) Trichloroethylene: "The California Department of Health Services (DHS) sets drinking water standards and has determined that trichloroethylene is a health concern at certain levels of exposure. This chemical is a common metal cleaning and dry cleaning fluid. It generally gets into drinking water by improper waste disposal. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed at lower levels over long periods of time. DHS has set forth the enforceable drinking water standard for trichloroethylene at 0.005 part per million (ppm) to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. Drinking water which meets this standard is associated with little to none of this risk and should be considered safe with respect to trichloroethane."

(u) Vinyl chloride: "The California Department of Health Services (DHS) sets drinking water standards and has determined that vinyl chloride is a health concern at certain levels of exposure. This chemical is used in industry and is found in drinking water as a result of the breakdown of related solvents. The solvents are used as cleaners and degreasers of metals and generally get into drinking water by improper waste disposal. This chemical has been associated with significantly increased risks of cancer among certain industrial workers who were exposed to relatively large amounts of this chemical during their working careers. This chemical has been shown to cause cancer in laboratory animals when the animals are exposed at high levels over their lifetimes. Chemicals that cause increased risk of cancer among exposed industrial workers and in laboratory animals also may increase the risk of cancer in humans who are exposed at lower levels over long periods of time. DHS has set the enforceable drinking water standard for vinyl chloride at 0.0005 part per million (ppm) to reduce the risk of cancer or other adverse health effects which have been observed in humans and laboratory animals. Drinking water which meets this standard is associated with little to none of this risk and should be considered safe with respect to vinyl chloride."

(v) Xylene: "The California Department of Health Services (DHS) sets drinking water standards and has determined that xylene is a health concern at certain levels of exposure. This organic chemical is used in the manufacture of gasoline for airplanes and as a solvent for pesticides, and as a cleaner and degreaser of metals. It usually gets into water by improper waste disposal. This chemical has been shown to damage the liver, kidney and nervous system of laboratory animals such as rats and dogs exposed to high levels during their lifetimes. Some humans who were exposed to relatively large amounts of this chemical also suffered damage to the nervous system. DHS has set the drinking water standard for xylene at 1.750 part per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the DHS standard is associated with little to none of this risk and is considered safe with respect to xylene."

§64468.3. Health Effects Language - Synthetic Organic Chemicals.

Pursuant to Section 64467, the explanation of potential adverse health effects for synthetic organic chemicals shall include the following mandatory language for the designated contaminants:

(a) Alachlor: "The California Department of Health Services (DHS) sets drinking water standards and has determined that alachlor is a health concern at certain levels of exposure. This organic chemical is a widely used pesticide. When soil and climatic conditions are favorable, alachlor may get into drinking water by runoff into surface water or by leaching into ground water. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. DHS has set the drinking water standard for alachlor at 0.002 part per million (ppm) to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. Drinking water that meets this standard is associated with little to none of this risk and is considered safe with respect to alachlor."

(b) Atrazine: “The California Department of Health Services (DHS) sets drinking water standards and has determined that atrazine is a health concern at certain levels of exposure. This organic chemical is a herbicide. When soil and climatic conditions are favorable, atrazine may get into drinking water by runoff into surface water or by leaching into ground water. This chemical has been shown to affect offspring of rats and the heart of dogs. DHS has set the drinking water standard for atrazine at 0.003 part per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the DHS standard is associated with little to none of this risk and is considered safe with respect to atrazine.”

(c) Benzo[a]pyrene: “The California Department of Health Services (DHS) sets drinking water standards and has determined that benzo[a]pyrene is a health concern at certain levels of exposure. Cigarette smoke and charbroiled meats are common source of general exposure. The major source of benzo[a]pyrene in drinking water is the leaching from coal tar lining and sealants in water storage tanks. This chemical has been shown to cause cancer in animals such as rats and mice when the animals are exposed at high levels. DHS has set the drinking water standard for benzo[a]pyrene at 0.0002 part per million (ppm) to protect against the risk of cancer. Drinking water which meets the DHS standard is associated with little to none of this risk and should be considered safe with respect to benzo[a]pyrene.”

(d) Carbofuran: “The California Department of Health Services (DHS) sets drinking water standards and has determined that carbofuran is a health concern at certain levels of exposure. This organic chemical is a pesticide. When soil and climatic conditions are favorable, carbofuran may get into drinking water by runoff into surface water or by leaching into ground water. This chemical has been shown to damage the nervous and reproductive systems of laboratory animals such as rats and mice exposed at high levels over their lifetimes. Some humans who were exposed to relatively large amounts of this chemical during their working careers also suffered damage to the nervous system. Effects on the nervous system are generally rapidly reversible. DHS has set the drinking water standard for carbofuran at 0.018 part per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the DHS standard is associated with little to none of this risk and is considered safe with respect to carbofuran.”

(e) Chlordane: “The California Department of Health Services (DHS) sets drinking water standards and has determined that chlordane is a health concern at certain levels of exposure. This organic chemical is a pesticide used to control termites. Chlordane is not very mobile in soils. It usually gets into drinking water after application near water supply intakes or wells. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. DHS has set the drinking water standard for chlordane at 0.0001 part per million (ppm) to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. Drinking water that meets the DHS standard is associated with little to none of this risk and is considered safe with respect to chlordane.”

(f) 2,4-D: “The California Department of Health Services (DHS) sets drinking water standards and has determined that 2,4-D is a health concern at certain levels of exposure. This organic chemical is used as a herbicide and to control algae in reservoirs. When soil and climatic conditions are favorable, 2,4-D may get into drinking water by runoff into surface water or by leaching into ground water. This chemical has been shown to damage the liver and kidney of laboratory animals such as rats exposed at high levels during their lifetimes. Some humans who were exposed to relatively large amounts of this chemical also suffered damage to the nervous system. DHS has set the drinking water standard for 2,4-D at 0.07 part per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the DHS standard is associated with little to none of this risk and is considered safe with respect to 2,4-D.”

(g) Dalapon: “The California Department of Health Services (DHS) sets drinking water standards and has determined that dalapon is a health concern at certain levels of exposure. This organic chemical is a widely used herbicide. It may get into drinking water after application to control grasses in crops, drainage ditches and along railroads. This chemical has been shown to cause damage to the kidney and liver in laboratory animals when the animals are exposed to high levels over their lifetimes. DHS has set the drinking water standard for dalapon at 0.2 part per million (ppm) to protect against the risk of these adverse health effects. Drinking water which meets the DHS standard is associated with little to none of this risk and should be considered safe with respect to dalapon.”

(h) Dibromochloropropane (DBCP): “The California Department of Health Services (DHS) sets drinking water standards and has determined that DBCP is a health concern at certain levels of exposure. This organic chemical was once a popular pesticide. When soil and climatic conditions are favorable, dibromochloropropane may get into drinking water by runoff into surface water or by leaching into ground water. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. DHS has set the drinking water standard for DBCP at 0.0002 part per million (ppm) to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. Drinking water that meets the DHS standard is associated with little to none of this risk and is considered safe with respect to DBCP.”

(i) Di(2-ethylhexyl)adipate: “The California Department of Health Services (DHS) sets drinking water standards and has determined that di(2-ethylhexyl)adipate is a health concern at certain levels of exposure. Di(2-ethylhexyl)adipate is a widely used plasticizer in a variety of products, including synthetic rubber, food packaging materials and cosmetics. It may get into drinking water after improper waste disposal. This chemical has been shown to damage liver and testes in laboratory animals such as rats and mice exposed to high levels. DHS has set the drinking water standard for di(2-ethylhexyl)adipate at 0.4 part per million (ppm) to protect against the risk of adverse

health effects. Drinking water which meets the DHS standards is associated with little to none of this risk and should be considered safe with respect to di(2-ethylhexyl)adipate.”

(j) Di(2-ethylhexyl)phthalate: “The California Department of Health Services (DHS) sets drinking water standards and has determined that di(2-ethylhexyl)phthalate is a health concern at certain levels of exposure. Di(2-ethylhexyl)phthalate is a widely used plasticizer, which is primarily used in the production of polyvinyl chloride (PVC) resins. It may get into drinking water after improper waste disposal. This chemical has been shown to cause cancer in laboratory animals such as rats and mice exposed to high levels over their lifetimes. DHS has set the drinking water standard for di(2-ethylhexyl)phthalate at 0.004 part per million (ppm) to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. Drinking water which meets the DHS standard is associated with little to none of this risk and should be considered safe with respect to di(2-ethylhexyl)phthalate.”

(k) Dinoseb: “The California Department of Health Services (DHS) sets drinking water standards and has determined that dinoseb is a health concern at certain levels of exposure. Dinoseb is a widely used pesticide and generally gets into drinking water after application on orchards, vineyards and other crops. This chemical has been shown to damage the thyroid and reproductive organs in laboratory animals such as rats exposed to high levels. DHS has set the drinking water standard for dinoseb at 0.007 part per million (ppm) to protect against the risk of adverse health effects. Drinking water which meets the DHS standard is associated with little to none of this risk and should be considered safe with respect to dinoseb.”

(l) Diquat: “The California Department of Health Services (DHS) sets drinking water standards and has determined that diquat is a health concern at certain levels of exposure. This organic chemical is a herbicide used to control terrestrial and aquatic weeds. It may get into drinking water by runoff into surface water. This chemical has been shown to damage the liver, kidney and gastrointestinal tract and causes cataract formation in laboratory animals such as dogs and rats exposed at high levels over their lifetimes. DHS has set the drinking water standard for diquat at 0.02 part per million (ppm) to protect against the risk of these adverse effects. Drinking water which meets the DHS standard is associated with little to none of this risk and should be considered safe with respect to diquat.”

(m) Endothall: “The California Department of Health Services (DHS) sets drinking water standards and has determined that endothall is a health concern at certain levels of exposure. This organic chemical is a herbicide used to control terrestrial and aquatic weeds. It may get into water by runoff into surface water. This chemical has been shown to damage the liver, kidney, gastrointestinal tract and reproductive system of laboratory animals such as rats and mice exposed at high levels over their lifetimes. DHS has set the drinking water standard for endothall at 0.1 part per million (ppm) to protect against the risk of these adverse health effects. Drinking water which meets the DHS standard is associated with little to none of this risk and should be considered safe with respect to endothall.”

(n) Endrin: “The California Department of Health Services (DHS) sets drinking water standards and has determined that endrin is a health concern at certain levels of exposure. This organic chemical is a pesticide no longer registered for use in the United States. However, this chemical is persistent in treated soils and accumulates in sediments and aquatic and terrestrial biota. This chemical has been shown to cause damage to the liver, kidney and heart in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. DHS has set the drinking water standard for endrin at 0.002 part per million (ppm) to protect against the risk of these adverse health effects which have been observed in laboratory animals. Drinking water that meets the DHS standard is associated with little to none of this risk and should be considered safe with respect to endrin.”

(o) Ethylene dibromide (EDB): “The California Department of Health Services (DHS) sets drinking water standards and has determined that EDB is a health concern at certain levels of exposure. This organic chemical was once a popular pesticide. When soil and climatic conditions are favorable, EDB may get into drinking water by runoff into surface water or by leaching into ground water. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. DHS has set the drinking water standard for EDB at 0.00005 part per million (ppm) to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. Drinking water that meets this standard is associated with little to none of this risk and is considered safe with respect to EDB.”

(p) Glyphosate: “The California Department of Health Services (DHS) sets drinking water standards and has determined that glyphosate is a health concern at certain levels of exposure. This organic chemical is a herbicide used to control grasses and weeds. It may get into drinking water by runoff into surface water. This chemical has been shown to cause damage to the liver and kidneys in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. DHS has set the drinking water standard for glyphosate at 0.7 part per million (ppm) to protect against the risk of these adverse health effects. Drinking water which meets the DHS standard is associated with little to none of this risk and should be considered safe with respect to glyphosate.”

(q) Heptachlor: “The California Department of Health Services (DHS) sets drinking water standards and has determined that heptachlor is a health concern at certain levels of exposure. This organic chemical was once a popular pesticide. When soil and climatic conditions are favorable, heptachlor may get into drinking water by runoff into surface water or by leaching into ground water. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. DHS has set the drinking water standard for heptachlor at 0.00001 part per million (ppm) to reduce the risk of cancer or other adverse health effects which have been observed in laboratory

animals. Drinking water that meets this standard is associated with little to none of this risk and is considered safe with respect to heptachlor.”

(r) Heptachlor epoxide: “The California Department of Health Services (DHS) sets drinking water standards and has determined that heptachlor epoxide is a health concern at certain levels of exposure. This organic chemical was once a popular pesticide. When soil and climatic conditions are favorable, heptachlor epoxide may get into drinking water by runoff into surface water or by leaching into ground water. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. DHS has set the drinking water standard for heptachlor epoxide at 0.00001 part per million (ppm) to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. Drinking water that meets this standard is associated with little to none of this risk and is considered safe with respect to heptachlor epoxide.”

(s) Hexachlorobenzene: “The California Department of Health Services (DHS) sets drinking water standards and has determined that hexachlorobenzene is a health concern at certain levels of exposure. This organic chemical is produced as an impurity in the manufacture of certain solvents and pesticides. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed to high levels during their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. DHS has set the drinking water standard for hexachlorobenzene at 0.001 part per million (ppm) to protect against the risk of cancer and other adverse health effects. Drinking water which meets the DHS standard is associated with little to none of this risk and should be considered safe with respect to hexachlorobenzene.”

(t) Hexachlorocyclopentadiene: “The California Department of Health Services (DHS) sets drinking water standards and has determined that hexachlorocyclopentadiene is a health concern at certain levels of exposure. This organic chemical is used as an intermediate in the manufacture of pesticides and flame retardants. It may get into water by discharge from production facilities. This chemical has been shown to damage the kidney and the stomach of laboratory animals when exposed to high levels over their lifetimes. DHS has set the drinking water standard for hexachlorocyclopentadiene at 0.05 part per million (ppm) to protect against the risk of these adverse health effects. Drinking water which meets the DHS standard is associated with little to none of this risk and should be considered safe with respect to hexachlorocyclopentadiene.”

(u) Lindane: “The California Department of Health Services (DHS) sets drinking water standards and has determined that lindane is a health concern at certain levels of exposure. This organic chemical is used as a pesticide. When soil and climatic conditions are favorable, lindane may get into drinking water by runoff into surface water or by leaching into ground water. This chemical has been shown to damage the liver, kidney, nervous system, and immune system of laboratory animals such as rats, mice and dogs

exposed at high levels during their lifetimes. Some humans who were exposed to relatively large amounts of this chemical also suffered damage to the nervous system and circulatory system. DHS has established the drinking water standard for lindane at 0.0002 part per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the DHS standard is associated with little to none of this risk and is considered safe with respect to lindane.”

(v) Methoxychlor: “The California Department of Health Services (DHS) sets drinking water standards and has determined that methoxychlor is a health concern at certain levels of exposure. This organic chemical is used as a pesticide. When soil and climatic conditions are favorable, methoxychlor may get into drinking water by runoff into surface water or by leaching into ground water. This chemical has been shown to damage the liver, kidney, nervous system, and reproductive system of laboratory animals such as rats exposed at high levels during their lifetimes. It has also been shown to produce growth retardation in rats. DHS has set the drinking water standard for methoxychlor at 0.04 part per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the DHS standard is associated with little to none of this risk and is considered safe with respect to methoxychlor.”

(w) Oxamyl: “The California Department of Health Services (DHS) sets drinking water standards and has determined that oxamyl is a health concern at certain levels of exposure. This organic chemical is used as a pesticide for the control of insects and other pests. It may get into drinking water by runoff into surface water or leaching into ground water. This chemical has been shown to damage the kidneys of laboratory animals such as rats when exposed at high levels over their lifetimes. DHS has set the drinking water standard for oxamyl at 0.2 part per million (ppm) to protect against the risk of these adverse health effects. Drinking water which meets the DHS standard is associated with little to none of this risk and should be considered safe with respect to oxamyl.”

(x) Pentachlorophenol: “The California Department of Health Services (DHS) sets drinking water standards and has determined that pentachlorophenol is a health concern at certain levels of exposure. This organic chemical is used as a wood preservative, herbicide, disinfectant, and defoliant. It generally gets into drinking water by runoff into surface water or leaching into ground water. This chemical has been shown to produce adverse reproductive effects and to damage the liver and kidneys of laboratory animals such as rats exposed to high levels during their lifetimes. Some humans who were exposed to relatively large amounts of this chemical also suffered damage to the liver and kidneys. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. DHS has set the drinking water standard for pentachlorophenol at 0.001 part per million (ppm) to protect against the risk of cancer or other adverse health effects. Drinking water that meets the DHS standard is associated with little to none of this risk and is considered safe with respect to pentachlorophenol.”

(y) Picloram: “The California Department of Health Services (DHS) sets drinking water standards and has determined that picloram is a health concern at certain levels of exposure. This organic chemical is used as a pesticide for broadleaf weed control. It may get into drinking water by runoff into surface water or leaching into ground water as a result of pesticide application and improper waste disposal. This chemical has been shown to cause damage to the kidneys and liver in laboratory animals such as rats when the animals are exposed at high levels over their lifetimes. DHS has set the drinking water standard for picloram at 0.5 part per million (ppm) to protect against the risk of these adverse health effects. Drinking water which meets the DHS standard is associated with little to none of this risk and should be considered safe with respect to picloram.”

(z) Polychlorinated biphenyls (PCBs): “The California Department of Health Services (DHS) sets drinking water standards and has determined that polychlorinated biphenyls (PCBs) are a health concern at certain levels of exposure. These organic chemicals were once widely used in electrical transformers and other industrial equipment. They generally get into drinking water by improper waste disposal or leaking electrical industrial equipment. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. DHS has set the drinking water standard for PCBs at 0.0005 part per million (ppm) to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. Drinking water that meets this standard is associated with little to none of this risk and is considered safe with respect to PCBs.”

(aa) Simazine: “The California Department of Health Services (DHS) sets drinking water standards and has determined that simazine is a health concern at certain levels of exposure. This organic chemical is a herbicide used to control annual grasses and broadleaf weeds. It may leach into ground water or run off into surface water after application. This chemical may cause cancer in laboratory animals such as rats and mice exposed at high levels during their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. DHS has set the drinking water standard for simazine at 0.004 part per million (ppm) to reduce the risk of cancer or other adverse health effects. Drinking water which meets the DHS standard is associated with little to none of this risk and should be considered safe with respect to simazine.”

(bb) Toxaphene: “The California Department of Health Services (DHS) sets drinking water standards and has determined that toxaphene is a health concern at certain levels of exposure. This organic chemical was once a pesticide widely used on cotton, corn, soybeans, pineapples and other crops. When soil and climatic conditions are favorable, toxaphene may get into drinking water by runoff into surface water or by leaching into ground water. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. DHS has set the drinking water

standard for toxaphene at 0.003 part per million (ppm) to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. Drinking water that meets this standard is associated with little to none of this risk and is considered safe with respect to toxaphene.”

(cc) 2,3,7,8-TCDD (Dioxin): “The California Department of Health Services (DHS) sets drinking water standards and has determined that dioxin is a health concern at certain levels of exposure. This organic chemical is an impurity in the production of some pesticides. It may get into drinking water by industrial discharge of wastes. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. DHS has set the drinking water standard for dioxin at 0.00000003 part per million (ppm) to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. Drinking water which meets this standard is associated with little to none of this risk and should be considered safe with respect to dioxin.”

(dd) 2,4,5-TP: “The California Department of Health Services (DHS) sets drinking water standards and has determined that 2,4,5-TP is a health concern at certain levels of exposure. This organic chemical is used as a herbicide. When soil and climatic conditions are favorable, 2,4,5-TP may get into drinking water by runoff into surface water or by leaching into ground water. This chemical has been shown to damage the liver and kidney of laboratory animals such as rats and dogs exposed to high levels during their lifetimes. Some industrial workers who were exposed to relatively large amounts of this chemical during working careers also suffered damage to the nervous system. DHS has set the drinking water standard for 2,4,5-TP at 0.05 part per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the DHS standard is associated with little to none of this risk and is considered safe with respect to 2,4,5-TP.”

§64468.4. Health Effects Language - Treatment Technique Chemicals.

Pursuant to Section 64467, the explanation of potential adverse health effects for treatment technique chemicals shall include the following mandatory language for the designated contaminants:

(a) Acrylamide: “The California Department of Health Services (DHS) sets drinking water standards and has determined that acrylamide is a health concern at certain levels of exposure. Polymers made from acrylamide are sometimes used to treat water supplies to remove particulate contaminants. Acrylamide has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. Sufficiently large doses of acrylamide are known to cause neurological injury. DHS has set the drinking water standard for acrylamide using a treatment technique to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. This treatment technique limits the amount of acrylamide in the polymer and the amount

of the polymer which may be added to drinking water to remove particulates. Drinking water systems which comply with this treatment technique have little to no risk and are considered safe with respect to acrylamide.”

(b) Epichlorohydrin: “The California Department of Health Services (DHS) sets drinking water standards and has determined that epichlorohydrin is a health concern at certain levels of exposure. Polymers made from epichlorohydrin are sometimes used in the treatment of water supplies as a flocculent to remove particulates. Epichlorohydrin generally gets into drinking water by improper use of these polymers. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. DHS has set the drinking water standard for epichlorohydrin using a treatment technique to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. This treatment technique limits the amount of epichlorohydrin in the polymer and the amount of the polymer which may be added to drinking water as a flocculent to remove particulates. Drinking water systems which comply with this treatment technique have little to no risk and are considered safe with respect to epichlorohydrin.”

§64469. Notice Pertaining to Lead.

(a) The water supplier of each community water system or non-transient non-community water system shall give notice to persons served by the system that their drinking water may be affected by lead contamination even if the water source does not violate the established maximum contaminant level for lead. This notice shall be completed by June 30, 1990. If a notice meeting the requirements of this section was issued prior to the effective date of these regulations, the water supplier shall be considered to be in compliance with this requirement when a copy of the notice has been filed with the department.

(b) The notice shall be given to persons served by the system either by (1) three newspaper notices (one for each of three consecutive months); or (2) once by direct mail; or (3) once by hand delivery. An additional alternative method of notice for non-transient non-community water systems is by posting a notice continuously for a period of three months in a conspicuous place in the area served by the system.

(c) The notice shall provide an explanation of the potential sources of lead in the drinking water, potential adverse health effects, available methods of mitigating known or potential lead content in drinking water, any steps the water system is taking to mitigate lead content in drinking water, and the necessity for seeking alternative water supplies, if any. The notice shall be reviewed and approved by the department. The notice shall include the following language concerning potential health effects:

“The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that lead is a health concern at certain levels of exposure. There is currently a standard of 0.050 parts per million (ppm). Based on new health

information, EPA is likely to lower this standard significantly. “Part of the purpose of this notice is to inform you of the potential adverse health effects of lead. This is being done even though your water may not be in violation of the current standard.” EPA and others are concerned about lead in drinking water. Too much lead in the human body can cause serious damage to the brain, kidneys, nervous system, and red blood cells. The greatest risk, even with short-term exposure, is to young children and pregnant women. “Lead levels in your drinking water are likely to be highest (1) if your home or water system has lead pipes, or (2) if your home has copper pipes with lead solder, and the home is less than five years old, or you have soft or acidic water, or the water sits in the pipes for several hours.”

The notice shall also include advice on how to determine if materials containing lead have been used in the users' plumbing system or in the distribution system and how to minimize exposure to water likely to contain high levels of lead. The notice shall be conspicuous and shall not contain unduly technical language, unduly small print, or similar problems that frustrate the purpose of the notice. Each notice shall contain the telephone number of the owner, operator, or designee of the public water system as a source of additional information concerning the notice. Where appropriate, the notice shall be multilingual.

§64470. Notification Language for Total Coliform MCL Violations.

(a) The following language shall be used when Section 64426.1(b)(1) or (2) has been violated but not Sections 64426.1(b)(3) and (4):

“The California Department of Health Services (Department) sets drinking water standards and has determined that the presence of total coliforms is a possible health concern. Total coliforms are common in the environment and are generally not harmful themselves. The presence of these bacteria in drinking water, however, generally is a result of a problem with water treatment or the pipes which distribute the water, and indicates that the water may be contaminated with organisms that can cause disease. Disease symptoms may include diarrhea, cramps, nausea, and possibly jaundice, and any associated headaches and fatigue. These symptoms, however, are not just associated with disease-causing organisms in drinking water, but also may be caused by a number of factors other than your drinking water. The Department has set an enforceable drinking water standard for total coliforms to reduce the risk of these adverse health effects. Under this standard, no more than 5.0 percent of the samples collected during a month can contain these bacteria, except that systems collecting fewer than 40 samples/month that have one total coliform-positive sample per month are not violating the standard. Drinking water which meets this standard is usually not associated with a health risk from disease-causing bacteria and should be considered safe.”

(b) The following language shall be used when there has been a violation of Section 64426.1(b)(3) or (4), with or without a violation of Section 64426.1(b)(1) or (2):

“The California Department of Health Services (Department) sets drinking water standards and has determined that the presence of fecal coliforms or *E. coli* is a serious

health concern. Fecal coliforms and *E. coli* are generally not harmful themselves, but their presence in drinking water is serious because they usually are associated with sewage or animal wastes. The presence of these bacteria in drinking water is generally a result of a problem with water treatment or the pipes which distribute the water, and indicates that the water may be contaminated with organisms that can cause disease. Disease symptoms may include diarrhea, cramps, nausea, and possibly jaundice, and associated headaches and fatigue. These symptoms, however, are not just associated with disease-causing organisms in drinking water, but also may be caused by a number of factors other than your drinking water. The Department has set an enforceable drinking water standard for fecal coliforms and *E. coli* to reduce the risk of these adverse health effects. Under this standard all drinking water samples must be free of these bacteria. Drinking water which meets this standard is associated with little or none of this risk and should be considered safe. The Department recommends that consumers take the following precautions: (to be inserted by the water supplier according to instructions from the Department).”

ARTICLE 20. CONSUMER CONFIDENCE REPORT

§64480. Applicability and Distribution.

(a) Except as provided in subsection (b), each community and nontransient-noncommunity (NTNC) water system shall prepare and deliver the first Consumer Confidence Report by July 1, 2001, and subsequent reports by July 1 annually thereafter. The first Consumer Confidence Report shall contain data collected during, or prior to, calendar year 2000, as prescribed by section 64481(d)(1). Each Consumer Confidence Report thereafter shall contain data collected during, or prior to, the previous calendar year.

(b) A new community or NTNC water system shall deliver its first Consumer Confidence Report by July 1 of the year after its first full calendar year in operation and subsequent reports by July 1 annually thereafter.

(c) A community or NTNC water system that sells water to another community or NTNC water system shall deliver the applicable information required in section 64481 to the purchasing system by no later than April 1 of each year or on a date mutually agreed upon by the seller and the purchaser, and specifically included in a contract between the parties.

§64481. Content of the Consumer Confidence Report.

(a) Each Consumer Confidence Report shall contain information on the source of the water delivered, including:

(1) The type of water delivered by the water system, e.g., surface water, ground water; and the commonly used name (if any) and location of the body (or bodies) of water.

(2) If a source water assessment has been completed, notification that the assessment is available, how to obtain it, the date it was completed or last updated, and a brief summary of the system's vulnerability to potential sources of contamination, using language provided by the Department if the Department conducted the assessment.

(b) For any of the following terms used in the Consumer Confidence Report, the water system shall provide the specified language below:

(1) Regulatory Action Level: “The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.”

(2) Maximum Contaminant Level or MCL: “The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible. Secondary MCLs are set to protect the odor, taste, and appearance of drinking water.”

(3) Maximum Contaminant Level Goal or MCLG: “The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the U.S. Environmental Protection Agency.”

(4) Public Health Goal or PHG: “The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California Environmental Protection Agency.”

(5) Primary Drinking Water Standard or PDWS: “MCLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.”

(6) Treatment technique: “A required process intended to reduce the level of a contaminant in drinking water.”

(7) Variances and exemptions: “Department permission to exceed an MCL or not comply with a treatment technique under certain conditions.”

(c) If any of the following are detected, information for each pursuant to subsection (d) shall be included in the Consumer Confidence Report:

(1) Contaminants subject to an MCL, regulatory action level, or treatment technique (regulated contaminants), as specified in sections 64426.1, 64431, 64439, 64441, 64443, 64444, 64448, 64449, 64653 and 64672.3;

(2) Contaminants specified in section 64450 for which monitoring is required (unregulated contaminants); and

(3) Disinfection by-products or microbial contaminants detected in the finished water for which monitoring is required by 40 CFR §§141.142 and 141.143 (Information Collection Rule, Federal Register 61, p 24354, May 14, 1996;), except as provided under subsection (e).

(4) Sodium and hardness.

(d) For contaminants identified in subsection (c), the water system shall include in the Consumer Confidence Report one table or several adjacent tables that have been developed pursuant to this subsection. Any additional monitoring results that a water system chooses to include in its Consumer Confidence Report shall be displayed separately.

(1) The data in the table(s) shall be derived from data collected to comply with U.S. Environmental Protection Agency (USEPA) and Department monitoring and analytical requirements during calendar year 2000 for the first Consumer Confidence Report and subsequent calendar years thereafter except that:

(A) Where a system is allowed to monitor for regulated contaminants less often than once a year, the table(s) shall include the date and results of the most recent sampling and the Consumer Confidence Report shall include a brief statement indicating that the data presented in the table(s) are from the most recent testing done in accordance with the regulations. No data older than 9 years need be included.

(B) Results of monitoring in compliance with 40 CFR §§141.142 and 141.143 (Information Collection Rule, Federal Register 61, p 24354, May 14, 1996), need only be included in the table(s) for 5 years from the date of the last sampling or until any of the detected contaminants becomes regulated and subject to routine monitoring requirements, whichever comes first. Both the average and range sample results for the most recent year of sampling shall be included for any detected contaminant.

(2) For detected regulated contaminants (listed in subsection (c)(1)), the table(s) shall include:

(A) The MCL expressed as a number equal to or greater than 1.0;

(B) For a primary MCL, the public health goal (PHG) in the same units as the MCL; or if no PHG has been set for the contaminant, the table shall include the USEPA maximum contaminant level goal in the same units as the MCL.

(C) For a detected contaminant that does not have an MCL, the table(s) shall indicate whether there is a treatment technique or specify the regulatory action level applicable to that contaminant, and the Consumer Confidence Report shall include the appropriate language specified in subsection (b);

(D) For detected contaminants subject to an MCL, except turbidity and total coliforms, the sample result(s) collected at compliance monitoring sampling points shall be reported in the same units as the MCL as follows:

1. When compliance is determined by the results of a single sample, an initial sample averaged with one or two confirmation sample(s), or an average of four quarterly or six monthly samples, results shall be reported as follows:

A. For a single sampling point, or multiple sampling points for which data is being individually listed on the Consumer Confidence Report: The sample result; if more than one sample was collected, the average and range of the sample results.

B. For more than one sampling point, each of which has been sampled only once and for which data is being summarized together on the Consumer Confidence Report: The average and range of the sample results. If the waters from the sampling points are entering the distribution system at the same point, a flow-weighted average may be reported.

C. For multiple sampling points, one or more of which has been sampled more than once and for which data is being summarized together on the Consumer Confidence Report: The average of the individual sampling point averages and range of all the sample results. If the waters from the sampling points are entering the distribution system at the same point, a flow-weighted average may be reported.

2. When compliance with the MCL is determined by calculating a running annual average of all samples taken at a sampling point: The highest running annual average of the sampling point and the range of sample results or, if sampling points are summarized together for the Consumer Confidence Report, the

highest running annual average of any of the sampling points and the range of sample results from all the sampling points.

3. When compliance with the MCL is determined on a system-wide basis by calculating a running annual average of all sampling point averages: The highest running annual average and the range of sample results from all the sampling points.

4. When compliance with the MCL is determined on the basis of monitoring after treatment installed to remove a contaminant: The average level detected in the water entering the distribution system and the range of sample results.

5. If an MCL compliance determination was made in the year for which sample results are being reported and that determination was based on an average of results from both the previous and reporting years, then the compliance determination average shall be reported, but the range shall be based only on results from the year for which data is being reported.

(E) For turbidity:

1. When it is reported pursuant to the requirements of section 64652.5 (filtration avoidance): The highest value.

2. When it is reported pursuant to section 64653 (filtration): The highest single measurement based on compliance reporting and the lowest monthly percentage of samples meeting the turbidity limits specified in section 64653 for the filtration technology being used.

(F) For lead and copper: the 90th percentile value of the most recent round of sampling, the number of sites sampled, and the number of sampling sites exceeding the action level.

(G) For total coliform:

1. The highest monthly number of positive samples for systems collecting fewer than 40 samples per month; or

2. The highest monthly percentage of positive samples for systems collecting at least 40 samples per month.

(H) For fecal coliform or E. coli: the total number of positive samples during the year.

(I) The likely source(s) of detected contaminants for any detected contaminant with an MCL. If the water system lacks specific information on the likely source, the table(s) shall include one or more of the typical sources for that contaminant listed in appendices 64481-A or 64481-B that are most applicable to the system.

(3) The table(s) shall clearly identify any data indicating violations of MCLs or treatment techniques and the Consumer Confidence Report shall give information on each violation including the length of the violation, potential adverse health effects (primary MCLs only), and actions taken by the system to address the violation. To describe the potential health effects, the system shall use the relevant language pursuant to appendices 64481-C through 64481-G.

(4) For detected unregulated contaminants for which monitoring is required (except *Cryptosporidium*), the table(s) shall contain the average and range at which the contaminant was detected.

(e) If the system has performed any monitoring for *Cryptosporidium*, including monitoring performed to satisfy the requirements of 40 CFR §141.143 (Information Collection Rule, Federal Register 61, p 24354, May 14, 1996), that indicates that *Cryptosporidium* may be present in the source water or the finished water, the Consumer Confidence Report shall include a summary of the monitoring results and an explanation of their significance.

(f) If the system has performed any monitoring for radon that indicates that radon is present in the finished water, the Consumer Confidence Report shall include the monitoring results and an explanation of their significance.

(g) For the year covered by the report, the Consumer Confidence Report shall note any violations of (1) through (7) and give related information, including any potential adverse health effects, and the steps the system has taken to correct the violation.

(1) Monitoring and reporting of compliance data.

(2) Filtration and disinfection prescribed by sections 64652, 64652.5, 64653, or 64654. For systems that have failed to install adequate filtration or disinfection equipment or processes, or have had a failure of such equipment or processes that constitutes a violation, the Consumer Confidence Report shall include the following language as part of the explanation of potential adverse health effects: “Inadequately treated water may contain organisms that can cause illness when consumed. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.”

(3) One or more actions prescribed by the lead and copper requirements in sections 64673 through 64679. To address potential adverse health effects, the Consumer Confidence Report shall include the applicable language pursuant to appendix 64481-E for lead, copper, or both.

(4) Treatment technique requirements for Acrylamide and Epichlorohydrin in section 64448; to address potential adverse health effects, the Consumer Confidence Report shall include the relevant language from appendix 64481-G.

(5) Recordkeeping of compliance data.

(6) Special monitoring requirements prescribed by sections 64450.1, and 64449(c)(2) and (i).

(7) Terms of a variance, an exemption, or an administrative or judicial order.

(h) If a system is operating under the terms of a variance or an exemption issued under section 116430 or 116425 of the Health and Safety Code, the Consumer Confidence Report shall contain:

(1) An explanation of the reasons for the variance or exemption;

(2) The date on which the variance or exemption was issued;

(3) A brief status report on the steps the system is taking to install treatment, find alternative sources of water, or otherwise comply with the terms and schedules of the variance or exemption; and

(4) A notice of any opportunity for public input in the review, or renewal, of the variance or exemption.

(i) The Consumer Confidence Report shall contain the language in paragraphs (1) through (4).

(1) “The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.”

(2) “Contaminants that may be present in source water include:

(A) Microbial contaminants, such as viruses and bacteria, that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

(B) Inorganic contaminants, such as salts and metals, that can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.

(C) Pesticides and herbicides, that may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.

(D) Organic chemical contaminants, including synthetic and volatile organic chemicals, that are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, agricultural application, and septic systems.

(E) Radioactive contaminants, that can be naturally-occurring or be the result of oil and gas production and mining activities.”

(3) “In order to ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (USEPA) and the State Department of Health Services (Department) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. Department regulations also establish limits for contaminants in bottled water that provide the same protection for public health.”

(4) “Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the USEPA's Safe Drinking Water Hotline (1-800-426-4791).”

(j) All Consumer Confidence Reports shall prominently display the following language: “Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. USEPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).”

(k) The Consumer Confidence Report shall include the telephone number of the owner, operator, or designee of the water system as a source of additional information concerning the report.

(l) All Consumer Confidence Reports shall contain information in Spanish regarding the importance of the report or contain a telephone number or address where Spanish-speaking residents may contact the system to obtain a translated copy of the report or assistance in Spanish. For each non-English speaking group other than Spanish-speaking that exceeds 1,000 residents or 10% of the residents in a community, whichever is less, the Consumer Confidence Report shall contain information in the appropriate language(s) regarding the importance of the report or contain a telephone number or address where such residents may contact the system to obtain a translated copy of the report or assistance in the appropriate language.

(m) The Consumer Confidence Report shall include information (e.g., time and place of regularly scheduled board meetings) about opportunities for public participation in decisions that may affect the quality of the water.

Appendix 64481-A.

Typical Origins of Contaminants with Primary MCLs

Contaminant

Major origins in drinking water

Microbiological

Total coliform bacteria	Naturally present in the environment
Fecal coliform and E. coli	Human and animal fecal waste
Turbidity	Soil runoff

Radioactive

Gross Beta particle activity	Decay of natural and man-made deposits
Strontium-90	Decay of natural and man-made deposits
Tritium	Decay of natural and man-made deposits
Gross Alpha particle activity	Erosion of natural deposits
Combined radium 226/228	Erosion of natural deposits
Uranium	Erosion of natural deposits

Inorganic

Aluminum	Erosion of natural deposits; residue from some surface water treatment processes
Antimony	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder
Arsenic	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
Asbestos	Internal corrosion of asbestos cement water mains;

	erosion of natural deposits
Barium	Discharges of oil drilling wastes and from metal refineries; erosion of natural deposits
Beryllium	Discharge from metal refineries, coal-burning factories, and electrical, aerospace, and defense industries
Cadmium	Internal corrosion of galvanized pipes; erosion of natural deposits; discharge from electroplating and industrial chemical factories, and metal refineries; runoff from waste batteries and paints
Chromium	Discharge from steel and pulp mills and chrome plating; erosion of natural deposits
Copper	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Cyanide	Discharge from steel/metal, plastic and fertilizer factories
Fluoride	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
Lead	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits
Mercury	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills and cropland
Nickel	Erosion of natural deposits; discharge from metal factories
Nitrate	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Nitrite	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Selenium	Discharge from petroleum, glass, and metal refineries; erosion of natural deposits; discharge from mines and chemical manufacturers; runoff from livestock lots (feed additive)
Thallium	Leaching from ore-processing sites; discharge from electronics, glass, and drug factories

Synthetic organic

2,4-D	Runoff from herbicide used on row crops, range land, lawns, and aquatic weeds
2,4,5-TP (Silvex)	Residue of banned herbicide
Acrylamide	Added to water during sewage/wastewater treatment
Alachlor	Runoff from herbicide used on row crops
Atrazine	Runoff from herbicide used on row crops and along railroad and highway right-of-ways
Bentazon	Runoff/leaching from herbicide used on beans, peppers,

	corn, peanuts, rice, and ornamental grasses
Benzo(a)pyrene [PAH]	Leaching from linings of water storage tanks and distribution mains
Carbofuran	Leaching of soil fumigant used on rice and alfalfa, and grape vineyards
Chlordane	Residue of banned insecticide
Dalapon	Runoff from herbicide used on right-of-ways, and crops and landscape maintenance
Dibromochloropropane (DBCP)	Banned nematocide that may still be present in soils due to runoff/leaching from former use on soybeans, cotton, vineyards, tomatoes, and tree fruit
Di(2-ethylhexyl) adipate	Discharge from chemical factories
Di(2-ethylhexyl) phthalate	Discharge from rubber and chemical factories; inert ingredient in pesticides
Dinoseb	Runoff from herbicide used on soybeans, vegetables, and fruits
Dioxin [2,3,7,8-TCDD]	Emissions from waste incineration and other combustion; discharge from chemical factories
Diquat	Runoff from herbicide use for terrestrial and aquatic weeds
Endothall	Runoff from herbicide use for terrestrial and aquatic weeds; defoliant
Endrin	Residue of banned insecticide and rodenticide
Epichlorohydrin	Discharge from industrial chemical factories; impurity of some water treatment chemicals
Ethylene dibromide (EDB)	Discharge from petroleum refineries; underground gas tank leaks; banned nematocide that may still be present in soils due to runoff and leaching from grain and fruit crops
Glyphosate	Runoff from herbicide use
Heptachlor	Residue of banned insecticide
Heptachlor epoxide	Breakdown of heptachlor
Hexachlorobenzene	Discharge from metal refineries and agricultural chemical factories; byproduct of chlorination reactions in wastewater
Hexachlorocyclopentadiene	Discharge from chemical factories
Lindane	Runoff/leaching from insecticide used on cattle, lumber, gardens
Methoxychlor	Runoff/leaching from insecticide used on fruits, vegetables, alfalfa, livestock
Molinate [Ordram]	Runoff/leaching from herbicide used on rice
Oxamyl [Vydate]	Runoff/leaching from insecticide used on field crops, fruits and ornamentals, especially apples, potatoes, and tomatoes
Pentachlorophenol	Discharge from wood preserving factories, cotton and

	other insecticidal/herbicidal uses
Picloram	Herbicide runoff
Polychlorinated biphenyls [PCBs]	Runoff from landfills; discharge of waste chemicals
Simazine	Herbicide runoff
Thiobencarb	Runoff/leaching from herbicide used on rice
Toxaphene	Runoff/leaching from insecticide used on cotton and cattle

Volatile organic

Benzene	Discharge from plastics, dyes and nylon factories; leaching from gas storage tanks and landfills
Carbon tetrachloride	Discharge from chemical plants and other industrial activities
1,2-Dichlorobenzene	Discharge from industrial chemical factories
1,4-Dichlorobenzene	Discharge from industrial chemical factories
1,1-Dichloroethane	Extraction and degreasing solvent; used in manufacture of pharmaceuticals, stone, clay and glass products; fumigant
1,2-Dichloroethane	Discharge from industrial chemical factories
1,1-Dichloroethylene	Discharge from industrial chemical factories
cis-1,2-Dichloroethylene	Discharge from industrial chemical factories; major biodegradation byproduct of TCE and PCE groundwater contamination
trans-1,2-Dichloroethylene	Discharge from industrial chemical factories; minor biodegradation byproduct of TCE and PCE groundwater contamination
Dichloromethane	Discharge from pharmaceutical and chemical factories; insecticide
1,2-Dichloropropane	Discharge from industrial chemical factories; primary component of some fumigants
1,3-Dichloropropene	Runoff/leaching from nematocide used on croplands
Ethylbenzene	Discharge from petroleum refineries; industrial chemical factories
Monochlorobenzene	Discharge from industrial and agricultural chemical factories and drycleaning facilities
Styrene	Discharge from rubber and plastic factories; leaching from landfills
1,1,2,2-Tetrachloroethane	Discharge from industrial and agricultural chemical factories; solvent used in production of TCE, pesticides, varnish and lacquers
Tetrachloroethylene (PCE)	Discharge from factories, dry cleaners, and auto shops (metal degreaser)
1,2,4-Trichlorobenzene	Discharge from textile-finishing factories
1,1,1-Trichloroethane	Discharge from metal degreasing sites and other

	factories; manufacture of food wrappings
1,1,2-Trichloroethane	Discharge from industrial chemical factories
Trichloroethylene (TCE)	Discharge from metal degreasing sites and other factories
TTHMs [total trihalomethanes]	By-product of drinking water chlorination
Toluene	Discharge from petroleum and chemical factories; underground gas tank leaks
Trichlorofluoromethane	Discharge from industrial factories; degreasing solvent; propellant and refrigerant
1,1,2-Trichloro-1,2,2-Trifluoroethane	Discharge from metal degreasing sites and other factories; drycleaning solvent; refrigerant
Vinyl chloride	Leaching from PVC piping; discharge from plastics factories; biodegradation byproduct of TCE and PCE groundwater contamination
Xylenes	Discharge from petroleum and chemical factories; fuel solvent

Appendix 64481-B.

Typical Origins of Contaminants with Secondary MCLs

<i>Contaminant</i>	<i>Major origins in drinking water</i>
Aluminum	Erosion of natural deposits; residual from some surface water treatment processes
Color	Naturally-occurring organic materials
Corrosivity	Natural or industrially-influenced balance of hydrogen, carbon and oxygen in the water; affected by temperature and other factors.
Foaming Agents (MBAS)	Municipal and industrial waste discharges
Iron	Leaching from natural deposits; industrial wastes
Manganese	Leaching from natural deposits
Methyl-tert-butyl ether (MTBE)	Leaking underground storage tanks; discharge from petroleum and chemical factories;
Odor--Threshold	Naturally-occurring organic materials
Silver	Industrial discharges
Thiobencarb	Runoff/leaching from rice herbicide
Turbidity	Soil runoff
Zinc	Runoff/leaching from natural deposits; industrial wastes
Total dissolved solids	Runoff/leaching from natural deposits
Specific conductance	Substances that form ions when in water; seawater influence
Chloride	Runoff/leaching from natural deposits; seawater influence

Appendix 64481-C.Health Effects Language for the Consumer Confidence Report –
Microbiological Contaminants

<i>Contaminant</i>	<i>Health Effects language</i>
Total Coliform	Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially-harmful, bacteria may be present. Coliforms were found in more samples than allowed and this was a warning of potential problems.
Fecal coliform/E.Coli	Fecal coliforms and E. coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants, young children, and people with severely compromised immune systems.
Turbidity	Turbidity has no health effects. However, high levels of turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the

	presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.
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Appendix 64481-D.

Health Effects Language for the Consumer Confidence Report – Radioactive Contaminants

<i>Contaminant</i>	<i>Health Effects Language</i>
Gross Beta particle activity	Certain minerals are radioactive and may emit forms of radiation known as photons and beta radiation. Some people who drink containing beta and photon emitters in excess of the MCL over many years may have an increased risk of getting cancer.
Strontium-90	Some people who drink water containing strontium-90 in excess of the MCL over many years may have an increased risk of getting cancer.
Tritium	Some people who drink water containing tritium in excess of the MCL over many years may have an increased risk of getting cancer.
Gross Alpha particle activity	Certain minerals are radioactive and may emit a form of radiation known as alpha radiation. Some people who drink water containing alpha emitters in excess of the MCL over many years may have an increased risk of getting cancer.
Combined Radium 226/228	Some people who drink water containing radium 226 or 228 in excess of the MCL over many years may have an increased risk of getting cancer.
Uranium	Some people who drink water containing uranium in excess of the MCL over many years may have kidney problems or an increased risk of getting cancer.

Appendix 64481-E.

Health Effects Language for the Consumer Confidence Report – Inorganic Contaminants

<i>Contaminant</i>	<i>Health Effects Language</i>
Aluminum	Some people who drink water containing aluminum in excess of the MCL over many years may experience short-term gastrointestinal tract effects.
Antimony	Some people who drink water containing antimony in excess of the MCL over many years may experience increases in blood cholesterol and decreases in blood sugar.
Arsenic	Some people who drink water containing arsenic in

	excess of the MCL over many years may experience skin damage or circulatory system problems, and may have an increased risk of getting cancer.
Asbestos	Some people who drink water containing asbestos in excess of the MCL over many years may have an increased risk of developing benign intestinal polyps.
Barium	Some people who drink water containing barium in excess of the MCL over many years may experience an increase in blood pressure.
Beryllium	Some people who drink water containing beryllium in excess of the MCL over many years may develop intestinal lesions.
Cadmium	Some people who drink water containing cadmium in excess of the MCL over many years may experience kidney damage.
Chromium	Some people who use water containing chromium in excess of the MCL over many years may experience allergic dermatitis.
Copper	Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time may experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years may suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor.
Cyanide	Some people who drink water containing cyanide in excess of the MCL over many years may experience nerve damage or thyroid problems.
Fluoride	Some people who drink water containing fluoride in excess of the federal MCL of 4 mg/L over many years may get bone disease, including pain and tenderness of the bones. Children who drink water containing fluoride in excess of the state MCL of 2 mg/L may get mottled teeth.
Lead	Infants and children who drink water containing lead in excess of the action level may experience delays in their physical or mental development. Children may show slight deficits in attention span and learning abilities. Adults who drink this water over many years may develop kidney problems or high blood pressure.
Mercury	Some people who drink water containing mercury in excess of the MCL over many years may experience mental disturbances, or impaired physical coordination, speech and hearing.
Nickel	Some people who drink water containing nickel in

	excess of the MCL over many years may experience liver and heart effects.
Nitrate	Infants below the age of six months who drink water containing nitrate in excess of the MCL may quickly become seriously ill and, if untreated, may die because high nitrate levels can interfere with the capacity of the infant's blood to carry oxygen. Symptoms include shortness of breath and blueness of the skin. High nitrate levels may also affect the oxygen-carrying ability of the blood of pregnant women.
Nitrite	Infants below the age of six months who drink water containing nitrite in excess of the MCL may become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blueness of the skin.
Selenium	Selenium is an essential nutrient. However, some people who drink water containing selenium in excess of the MCL over many years may experience hair or fingernail losses, numbness in fingers or toes, or circulation system problems.
Thallium	Some people who drink water containing thallium in excess of the MCL over many years may experience hair loss, changes in their blood, or kidney, intestinal, or liver problems.

Appendix 64481-F.

Health Effects Language for the Consumer Confidence Report –
Volatile Organic Contaminants

<i>Contaminant</i>	<i>Health Effects Language</i>
Benzene	Some people who use water containing benzene in excess of the MCL over many years may experience anemia or a decrease in blood platelets, and may have an increased risk of getting cancer.
Carbon Tetrachloride	Some people who use water containing carbon tetrachloride in excess of the MCL over many years may experience liver problems and may have an increased risk of getting cancer.
1,2-Dichlorobenzene	Some people who drink water containing 1,2-dichlorobenzene in excess of the MCL over many years may experience liver, kidney, or circulatory system problems.
1,4-Dichlorobenzene	Some people who use water containing 1,4-dichlorobenzene in excess of the MCL over many years may experience anemia, liver, kidney, or spleen damage, or changes in their blood.
1,1-Dichloroethane	Some people who use water containing 1,1-

	dichloroethane in excess of the MCL over many years may experience nervous system or respiratory problems.
1,2-Dichloroethane	Some people who use water containing 1,2-dichloroethane in excess of the MCL over many years may have an increased risk of getting cancer.
1,1-Dichloroethylene	Some people who use water containing 1,1-dichloroethylene in excess of the MCL over many years may experience liver problems.
cis-1,2-Dichloroethylene	Some people who use water containing cis-1,2-dichloroethylene in excess of the MCL over many years may experience liver problems.
trans-1,2-Dichloroethylene	Some people who drink water containing trans-1,2-dichloroethylene in excess of the MCL over many years may experience liver problems.
Dichloromethane	Some people who drink water containing dichloromethane in excess of the MCL over many years may experience liver problems and may have an increased risk of getting cancer.
1,2-Dichloropropane	Some people who use water containing 1,2-dichloropropane in excess of the MCL over many years may have an increased risk of getting cancer.
1,3-Dichloropropene	Some people who use water containing 1,3-dichloropropene in excess of the MCL over many years may have an increased risk of getting cancer.
Ethylbenzene	Some people who use water containing ethylbenzene in excess of the MCL over many years may experience liver or kidney problems.
Monochlorobenzene	Some people who use water containing chlorobenzene in excess of the MCL over many years may experience liver or kidney problems.
Styrene	Some people who drink water containing styrene in excess of the MCL over many years may experience liver, kidney, or circulatory system problems.
1,1,2,2-Tetrachloroethane	Some people who drinking water containing 1,1,2,2-tetrachloroethane in excess of the MCL over many years may experience liver or nervous system problems.
Tetrachloroethylene	Some people who use water containing tetrachloroethylene in excess of the MCL over many years may experience liver problems, and may have an increased risk of getting cancer.
1,2,4-Trichlorobenzene	Some people who use water containing 1,2,4-trichlorobenzene in excess of the MCL over many years may experience adrenal gland changes.
1,1,1,-Trichloroethane	Some people who use water containing 1,1,1-trichloroethane in excess of the MCL over many years may experience liver, nervous system, or circulatory

	system problems.
1,1,2-Trichloroethane	Some people who use water containing 1,1,2-trichloroethane in excess of the MCL over many years may experience liver, kidney, or immune system problems.
Trichloroethylene (TCE)	Some people who use water containing trichloroethylene in excess of the MCL over many years may experience liver problems and may have an increased risk of getting cancer.
TTHMs [Total Trihalomethanes]:	Some people who use water containing trihalomethanes in excess of the MCL over many years may experience liver, kidney, or central nervous system problems, and may have an increased risk of getting cancer.
Toluene	Some people who use water containing toluene in excess of the MCL over many years may experience nervous system, kidney, or liver problems.
Trichlorofluoro-methane	Some people who use water containing trichlorofluoromethane in excess of the MCL over many years may experience liver problems.
1,1,2-Trichloro-1,2,2-trifluoroethane	Some people who use water containing 1,1,2-trichloro-1,2,2-trichloroethane in excess of the MCL over many years may experience liver problems.
Vinyl Chloride	Some people who use water containing vinyl chloride in excess of the MCL over many years may have an increased risk of getting cancer.
Xylenes	Some people who use water containing xylenes in excess of the MCL over many years may experience nervous system damage.

Appendix 64481-G.

Health Effects Language for the Consumer Confidence Report – Synthetic Organic Contaminants

<i>Contaminant</i>	<i>Health Effects Language</i>
2,4-D	Some people who use water containing the weed killer 2,4-D in excess of the MCL over many years may experience kidney, liver, or adrenal gland problems.
2,4,5-TP (Silvex)	Some people who drink water containing Silvex in excess of the MCL over many years may experience liver problems.
Acrylamide	Some people who drink water containing high levels of acrylamide over a long period of time may experience nervous system or blood problems, and may have an increased risk of getting cancer.
Alachlor	Some people who use water containing alachlor in excess of the MCL over many years may experience eye,

	liver, kidney, or spleen problems, or experience anemia, and may have an increased risk of getting cancer.
Atrazine	Some people who use water containing atrazine in excess of the MCL over many years may experience cardiovascular system problems or reproductive difficulties.
Bentazon	Some people who drink water containing bentazon in excess of the MCL over many years may experience prostate and gastrointestinal effects.
Benzo(a)pyrene [PAH]	Some people who use water containing benzo(a)pyrene in excess of the MCL over many years may experience reproductive difficulties and may have an increased risk of getting cancer.
Carbofuran	Some people who use water containing carbofuran in excess of the MCL over many years may experience problems with their blood, or nervous or reproductive system problems.
Chlordane	Some people who use water containing chlordane in excess of the MCL over many years may experience liver or nervous system problems, and may have an increased risk of getting cancer.
Dalapon	Some people who drink water containing dalapon in excess of the MCL over many years may experience minor kidney changes.
Dibromochloro-propane (DBCP)	Some people who use water containing DBCP in excess of the MCL over many years may experience reproductive difficulties and may have an increased risk of getting cancer.
Di (2-ethylhexyl) adipate	Some people who drink water containing di(2-ethylhexyl) adipate in excess of the MCL over many years may experience general toxic effects or reproductive difficulties.
Di (2-ethylhexyl) phthalate	Some people who use water containing di(2-ethylhexyl) phthalate in excess of the MCL over many years may experience liver problems or reproductive difficulties, and may have an increased risk of getting cancer.
Dinoseb	Some people who drink water containing dinoseb in excess of the MCL over many years may experience reproductive difficulties.
Dioxin (2,3,7,8-TCDD):	Some people who use water containing dioxin in excess of the MCL over many years may experience reproductive difficulties and may have an increased risk of getting cancer.
Diquat	Some people who drink water containing diquat in excess of the MCL over many years may get cataracts.
Endothall	Some people who drink water containing endothall in

	excess of the MCL over many years may experience stomach or intestinal problems.
Endrin	Some people who drink water containing endrin in excess of the MCL over many years may experience liver problems.
Epichlorohydrin	Some people who drink water containing high levels of epichlorohydrin over a long period of time may experience stomach problems, and may have an increased risk of getting cancer.
Ethylene dibromide (EDB)	Some people who use water containing ethylene dibromide in excess of the MCL over many years may experience liver, stomach, reproductive system, or kidney problems, and may have an increased risk of getting cancer.
Glyphosate	Some people who drink water containing glyphosate in excess of the MCL over many years may experience kidney problems or reproductive difficulties.
Heptachlor	Some people who use water containing heptachlor in excess of the MCL over many years may experience liver damage and may have an increased risk of getting cancer.
Heptachlor epoxide	Some people who use water containing heptachlor epoxide in excess of the MCL over many years may experience liver damage, and may have an increased risk of getting cancer.
Hexachlorobenzene	Some people who drink water containing hexachlorobenzene in excess of the MCL over many years may experience liver or kidney problems, or adverse reproductive effects, and may have an increased risk of getting cancer.
Hexachlorocyclopentadiene	Some people who use water containing hexachlorocyclopentadiene in excess of the MCL over many years may experience kidney or stomach problems.
Lindane	Some people who drink water containing lindane in excess of the MCL over many years may experience kidney or liver problems.
Methoxychlor	Some people who drink water containing methoxychlor in excess of the MCL over many years may experience reproductive difficulties.
Molinate (Ordram)	Some people who use water containing molinate in excess of the MCL over many years may experience reproductive effects.
Oxamyl [Vydate]:	Some people who drink water containing oxamyl in excess of the MCL over many years may experience slight nervous system effects.
PCBs [Polychlorinated	Some people who drink water containing PCBs in

biphenyls]:	excess of the MCL over many years may experience changes in their skin, thymus gland problems, immune deficiencies, or reproductive or nervous system difficulties, and may have an increased risk of getting cancer.
Pentachlorophenol	Some people who use water containing pentachlorophenol in excess of the MCL over many years may experience liver or kidney problems, and may have an increased risk of getting cancer.
Picloram	Some people who drink water containing picloram in excess of the MCL over many years may experience liver problems.
Simazine	Some people who use water containing simazine in excess of the MCL over many years may experience blood problems.
Thiobencarb	Some people who use water containing thiobencarb in excess of the MCL over many years may experience body weight and blood effects.
Toxaphene	Some people who use water containing toxaphene in excess of the MCL over many years may experience kidney, liver, or thyroid problems, and may have an increased risk of getting cancer.
Sulfate	Runoff/leaching from natural deposits; industrial wastes

§64482. Required Additional Health Information.

(a) A system that detects arsenic at levels above 25 ug/L, but below the MCL, shall include the following in its Consumer Confidence Report: “The U.S. Environmental Protection Agency is reviewing the drinking water standard for arsenic because of special concerns that the standard may not be stringent enough. Arsenic is a naturally-occurring mineral known to cause cancer in humans at high concentrations.”

(b) A system that detects nitrate at levels above 23 mg/L (as nitrate), but below the MCL, shall include the following in its Consumer Confidence Report: “Nitrate in drinking water at levels above 45 mg/L is a health risk for infants of less than six months of age. Such nitrate levels in drinking water can interfere with the capacity of the infant's blood to carry oxygen, resulting in a serious illness; symptoms include shortness of breath and blueness of the skin. Nitrate levels above 45 mg/L may also affect the ability of the blood to carry oxygen in other individuals, such as pregnant women and those with certain specific enzyme deficiencies. If you are caring for an infant, or you are pregnant, you should ask advice from your health care provider. If a system cannot demonstrate to the Department with at least five years of the most current monitoring data that its nitrate levels are stable, it shall also add the following language to the preceding statement on nitrate: “Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity.”

(c) A system that detects lead above the action level in more than 5%, and up to and including 10%, of sites sampled, shall include the following in its Consumer Confidence Report: "Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested and/or flush your tap for 30 seconds to 2 minutes before using tap water. Additional information is available from the USEPA Safe Drinking Water Hotline (1-800-426-4791)."

(d) A community water system serving 10,000 or more people that has a running annual average for total trihalomethanes compliance determined pursuant to section 64439 that exceeds 0.080 mg/L, but does not exceed the total trihalomethanes MCL, shall include the health effects language in table 64481-F in its Consumer Confidence Report.

§64483. Consumer Confidence Report Delivery and Recordkeeping.

(a) Each water system shall mail or directly deliver one copy of the Consumer Confidence Report to each customer.

(b) The system shall make a good faith effort to reach consumers who are served by the water system but are not bill-paying customers, such as renters or workers, using a mix of methods appropriate to the particular system such as: Posting the Consumer Confidence Reports on the Internet; mailing to postal patrons in metropolitan areas; advertising the availability of the Consumer Confidence Report in the news media; publication in a local newspaper; posting in public places such as cafeterias or lunch rooms of public buildings; delivery of multiple copies for distribution by single-biller customers such as apartment buildings or large private employers; and delivery to community organizations.

(c) No later than the date the water system is required to distribute the Consumer Confidence Report to its customers, each water system shall mail a copy of the report to the Department, followed within 3 months by a certification that the report has been distributed to customers, and that the information is correct and consistent with the compliance monitoring data previously submitted to the Department.

(d) No later than the date the water system is required to distribute the Consumer Confidence Report to its customers, each privately-owned water system shall mail a copy of the report to the California Public Utilities Commission.

(e) Each water system shall make its Consumer Confidence Report available to the public upon request.

(f) Each water system serving 100,000 or more persons shall post its current year's Consumer Confidence Report on a publicly-accessible site on the Internet.

(g) Each water system shall retain copies of its Consumer Confidence Reports for no less than 5 years.

CHAPTER 16. CALIFORNIA WATERWORKS STANDARDS

ARTICLE 1. APPLICABILITY, RESPONSIBILITY AND DEFINITIONS

§64555. Definitions.

(a) “Asphalt Institute Standard” means a standard or specification issued by the Asphalt Institute.

(b) “ASTM Standard” means a standard issued by the American Society for Testing and Materials (ASTM).

(c) “AWWA Standard” means a standard adopted by the American Water Works Association (AWWA).

(d) “Federal Specification” means a standard approved by the United States General Services Agency for use by federal agencies.

(e) “Flat Rate Water System” means a public water system where water deliveries to at least 50 percent of the service connections are not metered.

(f) “Metered Water System” means a public water system that is not a flat rate water system.

ARTICLE 2. GENERAL REQUIREMENTS

§64560. Basic Design.

(a) Additions to or changes in distribution systems shall be designed and constructed to:

- (1) Be free of structural and sanitary hazards.
- (2) Protect the quality of the water delivered to users at all times.
- (3) Protect the distribution system against contamination by backflow.
- (4) Provide adequate size and capacity to meet the requirements of Sections

64562 and 64566.

(5) Withstand, with ample safety factors, the physical stresses imposed during normal operation.

(6) Minimize the effects of events such as power supply, equipment, and structural failures, earthquakes, fires, floods and sabotage that are reasonably foreseeable.

(7) Protect against unauthorized entry and/or vandalism.

(8) Protect against adverse effects in areas subject to freezing weather.

§64562. Quantity of Supply.

(a) Sufficient water shall be available from the water sources and distribution reservoirs to supply adequately, dependably and safely the total requirements of all users under maximum demand conditions before agreement is made to permit additional service connections to a system.

(b) To ascertain this, first determine the total capacity of the existing source by procedures prescribed in Section 64563 and determine the total storage volume of the existing distribution reservoirs. Then determine the needed source capacity and the needed storage volume by procedures prescribed in Section 64564. The total available source capacity shall not be less than the needed source capacity.

(c) The requirements of this section shall apply to an entire public water system and to each pressure zone within a public water system.

(1) Requirements for an entire public water system shall be determined from the total source capacity, total storage volume and the total number of service connections.

(2) Requirements for a particular pressure zone shall be determined from the total water supply available from the water sources and interzonal transfers directly supplying the zone, from the total storage volume within the zone and from the number of service connections within the zone.

§64563. Procedures for Determining Source Capacity.

(a) The source capacity of a well shall be based on the sustained yield of the well or pump output, whichever is less.

(1) Sustained yield of a well shall be determined from a pump test or from historical records.

(2) The conditions of a pump test used to determine sustained yield of a well shall be acceptable to the Department and shall include:

(A) Constant rate of water discharge from the well during the pump test.

(B) Continuation of the pump test until at least four consecutive measurements of water level drawdown in the well and the elapsed time since the beginning of the pump test yield a straight line when the drawdown is plotted against the logarithm of the elapsed time.

(b) The source capacity of a surface water supply or a spring shall be the lowest anticipated daily yield, based on adequately supported and documented data.

(c) The source capacity of a purchased water connection between two public water systems shall be included in the total source capacity of the purchaser if the purchaser has sufficient storage or standby source capacity to meet user requirements during reasonably foreseeable shutdowns by the supplier.

(d) Where the capacity of a source varies seasonally, the source capacity shall be the capacity at the time of maximum day demand.

§64564. Procedures for Determining Needed Source Capacity and Needed Storage Volume.

(a) Whenever possible, needed source capacity and needed storage volume shall be determined from existing water use records of the water system.

The records used shall clearly indicate total source capacity, total storage volume and maximum day demand of previous years.

The existing records of the water system may be supplemented as needed by the records of a similar water system acceptable to either the Department or a qualified registered engineer.

(b) When the existing records of the water system are inadequate to determine these values and no records of a similar water system can be found to supplement the existing records, the maximum day demand, the needed source capacity and the needed storage volume for typical residential and general commercial areas (without provisions for fire flow) shall be determined as follows:

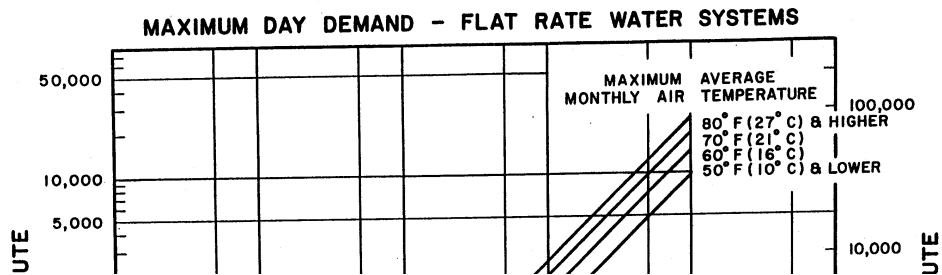
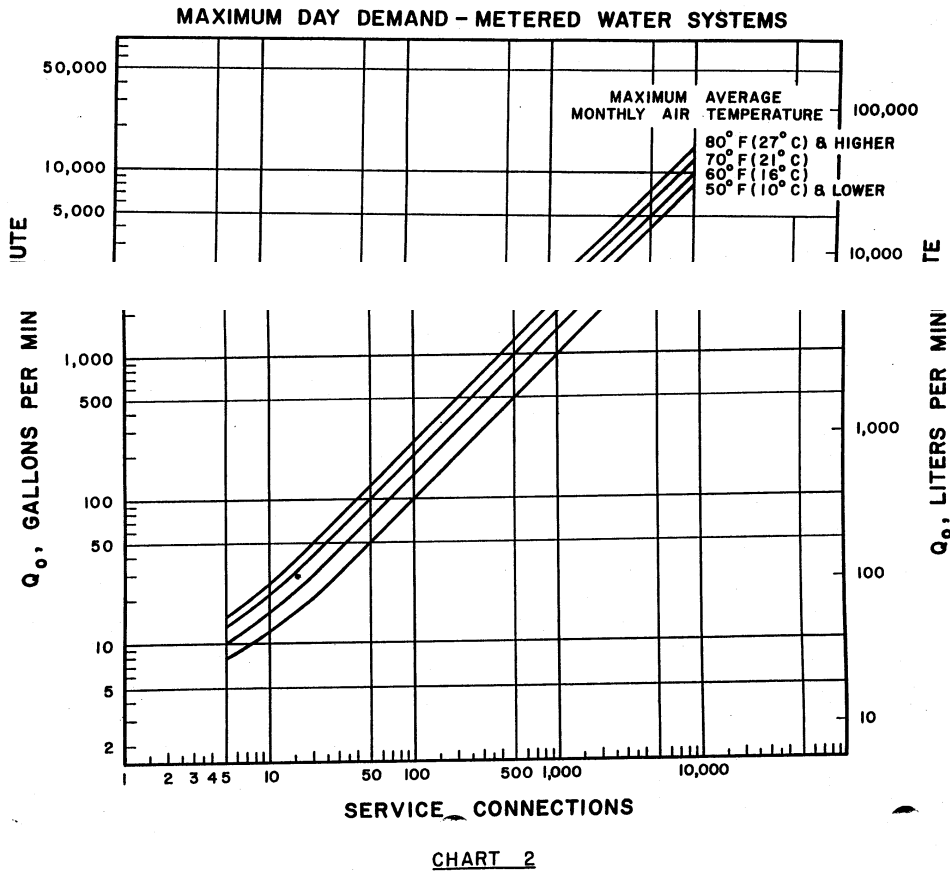
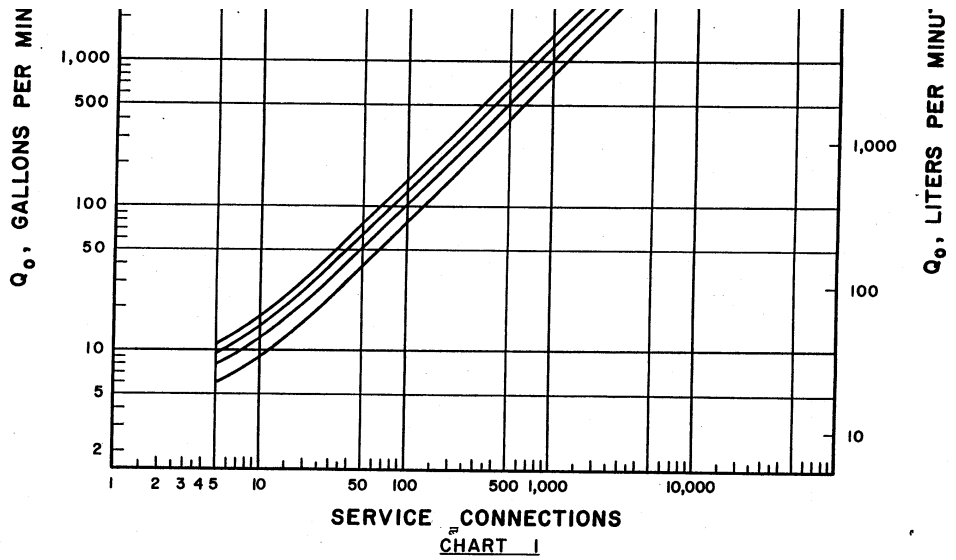
(1) Determine the maximum day demand (Q_o) from Chart 1 or Chart 2.

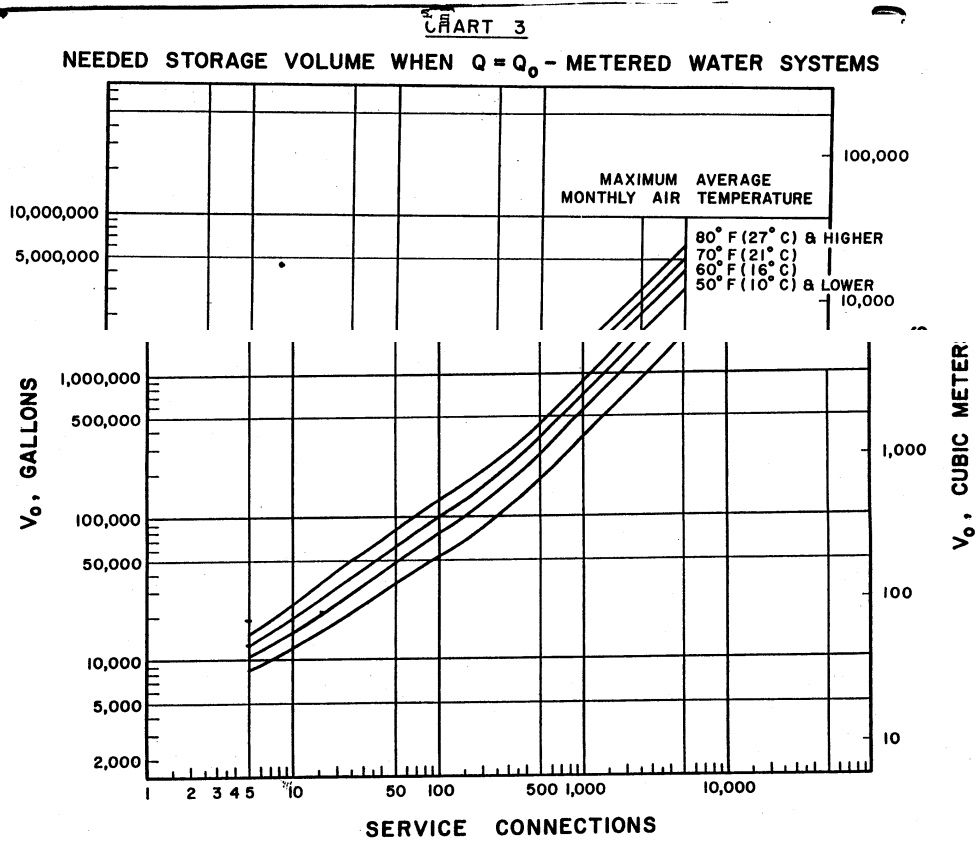
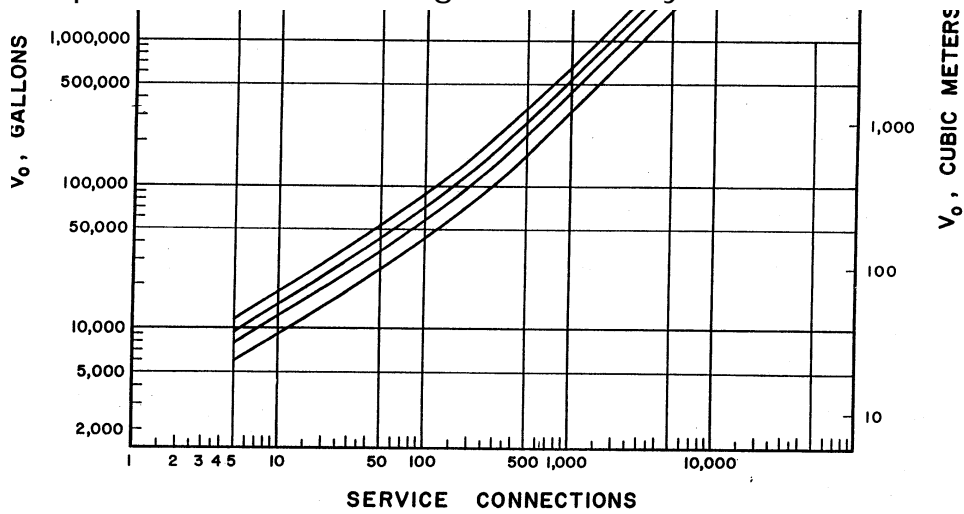
(2) When the total capacity of the existing sources equals the maximum day demand (Q_o), the needed storage volume (V_o) to meet peak demand during the day shall be determined from Chart 3 or Chart 4.

(3) When the total storage volume of the existing reservoirs (V) is less than the needed storage volume (V_o), the existing sources shall be supplemented so that the needed source capacity (Q) is met. For a metered water system, $Q = Q_o (2.5 - 1.5V/V_o)$ or for a flat rate water system, $Q = Q_o (2 - V/V_o)$.

(c) The needed source capacity and needed storage volume determined under (b) may be modified, with the approval of the Department, to reflect local conditions such as climate, community type and kinds of users. Unless the Department's written approval is obtained, the needed source capacity shall not be less than the maximum day demand.

(d) The data used and the calculation made by the water supplier to determine whether sufficient water is available to accommodate additions to the systems must be kept and are subject to the Department review and approval at its discretion.





§64566. System Pressure.

(a) Changes in distribution systems shall be designed to maintain an operating pressure at all service connections of not less than 20 pounds per square inch gauge (psig) (140 kiloPascals gauge (kPag)) under the following demand conditions:

- (1) User maximum hour demand.
- (2) User average day demand plus design fire flow.

(b) In a public water system supplying users at widely varying elevations, a water supplier may furnish a service to a user which does not comply with (a) if the user is fully advised of the conditions under which minimum service may be expected and the user's agreement is secured in writing. This waiver shall be applicable only to individual service connections.

(c) Water mains shall be designed to have at least five psig (35 kPag) pressure throughout any buried length of the main except when the main is removed from service for repairs or maintenance. This requirement shall not apply to short lengths of water main near reservoir inlets and outlets provided:

- (1) The water main is on premises owned, leased or controlled by the water supplier; or
- (2) The prior review and written approval of the Department is obtained.

§64568. Conditions for Adding Service Connections.

A new service connection may be added to a distribution system only if the water system will comply with Section 64562 after the new service connection is added and adding the new service connection will not cause pressure at an existing service connection to be reduced below the standards set in Section 64566.

§64570. Internal Combustion Engines.

(a) Where water cooling jackets for internal combustion engines are connected to water mains, the jacket shall be designed so that the water pressure inside the water main at the cooling jacket will at all times be greater than the engine coolant pressure.

(b) Backflow protection of the public water system shall be provided wherever makeup water is supplied to the cooling system of an internal combustion engine.

ARTICLE 3. DISTRIBUTION RESERVOIRS**§64600. Basic Design of Distribution Reservoirs.**

(a) Distribution reservoirs shall be covered.

(b) Vents, overflows, drain outlets and other reservoir openings shall be located and constructed to protect the water stored in the reservoir from contamination. Vents and overflows shall be screened. Vents shall not open upward. Overflows shall be large enough to dispose of reservoir overflow rates equal to the maximum reservoir filling rate.

(c) Provisions shall be made to facilitate removal of floating material from the free water surface and for dewatering the reservoir.

(d) Outlets shall be designed and constructed to minimize movement of sediment from the reservoir floor to the distribution system water mains.

(e) Provisions shall be made for isolating reservoirs and appurtenant facilities from the distribution system without causing violation of Section 64566.

(f) Unless the Department's approval is obtained, distribution reservoir sites shall not be used for nonwater works purposes that would:

- (1) Result in unrestricted public access.
- (2) Create a contamination hazard.

(g) Reservoirs shall be disinfected and sampled for bacteriological quality in accordance with the procedures described in "Methods for Disinfecting Tanks and Reservoirs," American Water Works Association Journal, 71(1):49-50 (January 1979).

§64602. Subsurface Distribution Reservoirs.

(a) Subsurface distribution reservoirs shall be lined and shall be located:

- (1) Above maximum anticipated ground water level.
- (2) At least 50 feet (15 meters) from the nearest sewer and at least 150 feet (45 meters) from all other sewerage facilities.

(b) The land adjacent to a subsurface distribution reservoir shall be graded to route surface water away from the reservoir.

§64604. Corrosion Protection.

Paints or other protective coatings shall comply with AWWA Standard D102-78.

ARTICLE 4. PUMPING STATIONS

§64612. Water Sealed Pumps.

Seal water for water sealed pumps shall meet the water quality requirements of the Domestic Water Quality and Monitoring Regulations, Title 22, California Administrative Code, Chapter 15. Adequate drainage shall be provided for disposal of used seal water.

ARTICLE 5. WATER MAINS AND APPURTENANCES

§64622. Water Main Materials.

(a) Water main materials shall meet the applicable standards listed in Table I.

(b) Cast iron and ductile iron pipe shall be cement mortar lined in accordance with AWWA Standard C104/A21.4-80.

(c) Steel pipe shall be protected from internal and external corrosion. Table II lists various acceptable protective coatings and linings with appropriate standards.

Table I
Material Standards

<i>Pipe Material</i>	<i>Standard</i>
Abestos-Cement	AWWA C400-80 or C402-77
Cast Iron	AWWA C106-75
Ductile Iron	AWWA C151/A21.51-81
Steel	AWWA C200-80
Copper	AWWA C800-66
Concrete	AWWA C300-82, C301-79, C302-74 or C303-78
Polybutylene	AWWA C902-78
Polyethylene	AWWA C901-78
Polyvinyl Chloride	AWWA C900-81

<i>Glass Reinforced</i>	<i>Standard</i>
Thermosetting Resin	AWWA C950-81

Table II
Steel Pipe Coatings and Linings

<i>Type of Coating or Lining</i>	<i>Standard</i>
Cement Mortar Coating or Lining	AWWA C205-80 or Federal Specification SS-P-385a
Coal Tar Coating, Lining or Wrapping	AWWA C203-78
Asphalt Mastic Coating	Asphalt Institute M-2 CS-96
Extruded Plastic Coating	Federal Specification L-C-530B (1972)
Rubber-Alkyd Paint Coating	AWWA C204-75
Cold Applied Tape Coating	AWWA C209-76
Coal Tar-Epoxy Coating	AWWA C210-78
Asphalt Coating and Wrapping	Standard Specifications for Public Works Construction (1973), Section 207-10.4.4

§64624. Water Main Selection and Installation.

(a) Steel pipe shall be selected and installed in accordance with American Water Works Association (AWWA) Manual M-11 (1964), "Steel Pipe--Design and Installation." The design shall comply with Sections 6.1 and 6.2 of the manual, except that the minimum design pressure shall be at least the maximum anticipated system pressure, but in no case less than 150 psig (1,030 kPag).

(b) Asbestos-cement, cast iron and ductile iron pipe shall be selected and installed in accordance with the standards listed in Table III.

(c) Polyvinyl chloride pipe shall be selected and installed in accordance with Appendix A of AWWA Standard C900-81.

(d) Polybutylene pipe shall be selected and installed in accordance with Appendix A of AWWA Standard C902-81.

(e) Polyethylene pipe shall be selected and installed in accordance with Appendix A of AWWA Standard C901-81.

(f) Plastic pipe shall not be used in areas subject to contamination by petroleum distillates.

Table III

Pipe Selection and Installation Standards

<i>Type of Pipe</i>	<i>Standards</i>
Asbestos-Cement	AWWA C401-83, C403-78 and C603-78
Cast Iron	AWWA C600-82
Ductile Iron	AWWA C150/A21.5-81 and C600-82

§64626. Layout of Water Mains.

(a) Water mains should be laid out only in segmented grids and loops and should be located within streets. Dead-end water mains shall be installed only if:

(1) Looping or gridding is impractical due to topography, geology, pressure zone boundaries, unavailability of easements or locations of users; or

(2) The main is to be extended in the near future and the planned extension will eliminate the dead-end conditions.

§64628. Minimum Water Main Diameter and Length of Run.

(a) Water mains shall have a nominal inside diameter of at least four inches (100 mm).

(b) Dead-end water mains exceeding 1,000 feet (300 meters) in length shall be constructed of pipe with a nominal inside diameter of at least 6 inches (150 mm).

(c) Dead-end water mains exceeding 2,000 feet (600 meters) in length shall be constructed of pipe with a nominal inside diameter of at least 8 inches (200 mm).

(d) The requirements of (a), (b) and (c) shall not apply to water main installations meeting one of the following criteria:

(1) The installation is designed under the direction of a qualified registered engineer to meet the requirements of Section 64566.

(2) The installation is approved by the Department prior to construction.

§64630. Water Main Installation.

(a) Water mains shall be installed below the frost line or shall otherwise be protected to prevent freezing.

(b) Water mains shall not have less than 30 inches (0.75 meters) of cover over the top of the pipe except where necessary to avoid underground obstructions or rocky conditions.

(c) Water mains shall be installed at least:

(1) Ten feet (3 meters) horizontally from and 1 foot (0.3 meters) higher than sanitary sewers located parallel to the main.

(2) One foot (0.3 meters) higher than sanitary sewers crossing the main.

(3) Ten feet (3 meters), and preferably 25 feet (7.5 meters), horizontally from sewage leach fields, cesspools, seepage pits and septic tanks.

(d) Separation distances specified in (c) shall be measured from the nearest edges of the facilities.

(e) Where the requirements of (c) and (d) cannot be met due to topography, inadequate right-of-way or easements or conflicts with other provisions of these regulations, lesser separation is permissible if:

(1) The water main and the sewer are located as far apart as feasible within the conditions listed above.

(2) The water main and the sewer are not installed within the same trench.

(3) The water main is appropriately constructed to prevent contamination of the water in the main by sewer leakage.

(f) Water mains shall be disinfected according to AWWA Standard C601-81 before being placed in service.

(g) Installation of water mains near the following sources of potential contamination shall be subject to written approval by the Department on a case-by-case basis:

(1) Storage ponds or land disposal sites for waste water or industrial process water containing toxic materials or pathogenic organisms.

(2) Solid waste disposal sites.

(3) Facilities such as storage tanks and pipelines where malfunction of the facility would subject the water in the main to toxic or pathogenic contamination.

§64632. Water Main Valve Locations.

Sufficient valves shall be provided on water mains to minimize inconvenience and sanitary hazards during repairs. In general, valves on water mains of 12 inches (300 mm) and smaller diameter should be located such that water main lengths of not more than 1,000 feet (300 meters) can be isolated by valve closures.

§64634. Water Main Valve Construction Standards.

(a) Water main valves of the types listed in Table IV shall conform to the standards shown in Table IV.

(b) A valve box shall be installed over each valve stem to aid in locating and operating the valve.

Table IV
Water Main Valve Construction Standards

Type of Valve	Construction Standard
Gate Valve	AWWA C550-80
Butterfly Valve	AWWA C504-80
Ball Valve	AWWA C507-73
Swing Check Valve	AWWA C508-82

§64636. Air and Vacuum Relief and Air Release Valves.

- (a) Vent openings for air and vacuum relief and air release valves shall be:
- (1) Extended at least one foot (0.3 meters) above grade and above maximum recorded high water.
 - (2) Provided with a screened, downward facing vent opening.
- (b) Where the requirements of (a) (1) cannot be practicably met, vent openings may be located in a subsurface chamber or pit under the following conditions:
- (1) The pit is adequately drained.
 - (2) The pit drain is not connected by pipe or other closed conduit to a sewer or storm drain without an air gap separation.

§64638. Water Main Joints.

Joints and appurtenances shall safely withstand the same working pressures for which the water main is designed. Jute shall not be used as a backup gasket material.

§64640. Fire Hydrants.

Fire hydrant laterals shall be provided with shutoff valves.

§64642. Flushing Valves and Blowoffs.

- (a) A flushing valve or blowoff shall be installed at the end of each dead-end water main where stagnant conditions are likely to develop.
- (b) Flushing valves and blowoffs shall be capable of establishing the minimum continuous flushing flow in the main indicated by Table V.
- (c) Flushing valves and blowoffs shall not discharge to a sewer without an air gap separation.

Table V
Minimum Water Main Flushing Flow

<i>Nominal Inside Diameter</i>		<i>Minimum Flushing Flow</i>	
<i>Inches</i>	<i>Millimeters</i>	<i>Gallons/Minute</i>	<i>Liters/Second</i>
2	50	25	1.5

3	75	50	3.4
4	100	100	6.3
6	150	225	14
8	200	400	25
10	250	600	38

§64644. Service Connection Pipe.

Service connection pipe and fittings shall be designed for cold water working pressures of not less than 150 psig (1,030 kPag). Copper tubing shall be commercial designation type K or L. Plastic tubing and fittings shall be products tested and certified as suitable for use in potable water piping systems by the National Sanitation Foundation Testing Laboratory, the Canadian Standards Association Testing Laboratory or another testing agency acceptable to the Department.

CHAPTER 17. SURFACE WATER TREATMENT**ARTICLE 1. GENERAL REQUIREMENTS AND DEFINITIONS****§64650. General Requirements.**

(a) For a supplier using an approved surface water, as defined in section 64651.10, this chapter establishes treatment techniques in lieu of maximum contaminant levels for turbidity and the following microbial contaminants: *Giardia lamblia* (cysts), viruses, heterotrophic plate count bacteria, and *Legionella*.

(b) Each supplier using an approved surface water shall provide multibarrier treatment necessary to reliably protect users from the adverse health effects of microbiological contaminants and to comply with the requirements and performance standards prescribed in this chapter. A supplier that meets the requirements of section 64652.5 and wishes to not be required to provide multibarrier treatment shall submit an application to the Department. That application shall consist of comprehensive documentation that either demonstrates current compliance with the requirements in section 64652.5 or demonstrates that the water system will be in compliance within fifteen months from application submittal. Within 30 days, the Department will review the application and inform the applicant in writing that the application is complete and accepted for filing, or that the application is deficient and what specific information is required. Within 90 days from the date the application is accepted for filing, the Department will complete its review of the documentation, determine whether to approve the application, and notify the water supplier. If at any time the Department determines that a water supplier is not in compliance with the requirements of this chapter, the Department will notify the supplier of that determination within 30 days of its being made.

(c) Except as provided for existing treatment plants in section 64652(c), within 90 days from the date of notification by the Department pursuant to subsection (b), the supplier shall submit for Department approval a plan and schedule to modify its system to meet the requirements of this chapter.

(d) If the supplier disagrees with the Department's notification specified in subsection (b), then the supplier shall submit reasons for its disagreement within 30 days from the receipt of the notification. The Department shall notify the supplier of its final determination in writing within 30 days of receipt of the supplier's reasons for disagreement. If the Department's final determination is that the supplier does not meet the requirements of this chapter, then the supplier shall comply with provisions of subsection (c) within 90 days of receipt of the Department's final determination.

§64651.10. Approved Surface Water.

“Approved surface water” means a surface water or groundwater under the direct influence of surface water that has received permit approval from the Department in accordance with sections 4011 through 4016 of the Health and Safety Code.

§64651.16. Coagulant Chemical.

“Coagulant chemical” means a floc-forming agent that has been demonstrated to provide coagulation.

§64651.20. Coagulation.

“Coagulation” means a process using coagulant chemicals and rapid mixing, by which colloidal and suspended material are destabilized and agglomerated into settleable and/or filterable flocs.

§64651.23. Conventional Filtration Treatment.

“Conventional filtration treatment” means a series of treatment processes which includes coagulation, flocculation, sedimentation, and filtration resulting in substantial particulate removal.

§64651.26. Diatomaceous Earth Filtration.

“Diatomaceous earth filtration” means a process resulting in particulate removal in which a precoat cake of graded diatomaceous earth filter media is deposited on a support membrane (septum) and, while the water is being filtered by passing through the cake on the septum, additional filter media known as body feed is continuously added to the feed water to maintain the permeability of the filter cake.

§64651.30. Direct Filtration Treatment.

“Direct filtration treatment” means a series of processes including coagulation, flocculation, and filtration but excluding sedimentation.

§64651.32. Disinfectant Contact Time.

“Disinfectant contact time” means the time in minutes that it takes for water to move from the point of disinfectant application or a previous point of disinfectant residual measurement to a point before or at the point where residual disinfectant concentration is measured. Disinfectant contact time in pipelines is calculated by dividing the internal volume of the pipe by the flow rate through the pipe. Disinfectant contact time within mixing basins and storage reservoirs is determined by tracer studies or an equivalent demonstration to the Department.

§64651.33. Disinfection.

“Disinfection” means a process which inactivates pathogenic organisms in water by chemical oxidants or equivalent agents.

§64651.36. Engineering Report.

“Engineering report” means a water treatment technical report prepared by a qualified engineer.

§64651.40. Filter-To-Waste.

“Filter-to-waste” means a provision in a filtration process to allow the first filtered water, after backwashing a filter, to be wasted or reclaimed.

§64651.43. Filtration.

“Filtration” means a process for removing particulate matter from water by passage through porous media.

§64651.46. Flocculation.

“Flocculation” means a process to enhance agglomeration or collection of smaller floc particles into larger, more easily settleable or filterable particles through gentle stirring by hydraulic or mechanical means.

§64651.50. Groundwater Under the Direct Influence of Surface Water.

“Groundwater under the direct influence of surface water” means any water beneath the surface of the ground with significant occurrence of insects or other macroorganisms, algae or large diameter pathogens such as *Giardia lamblia*, or significant and relatively rapid shifts in water characteristics such as turbidity, temperature, conductivity or pH which closely correlate to climatological or surface water conditions.

§64651.53. Legionella.

“Legionella” means a genus of bacteria, some species of which have caused a type or pneumonia called Legionnaires disease.

§64651.56. Multibarrier Treatment.

“Multibarrier treatment” means a series of water treatment processes that provide for both removal and inactivation of waterborne pathogens.

§64651.60. NTU (Nephelometric Turbidity Unit).

“Nephelometric Turbidity Unit (NTU)” means a measurement of the turbidity of water as determined by the ratio of the intensity of light scattered by the sample to the intensity of incident light, using instrumentation and methods as set forth in “Standard Methods for the Examination of Water and Wastewater,” 1985, American Public Health Association, et al., 16th edition, pages 134-136.

§64651.63. Pressure Filter.

“Pressure filter” means a pressurized vessel containing properly sized and graded granular media.

§64651.66. Qualified Engineer.

“Qualified engineer” means a Civil Engineer, registered in the State of California, with 3 years experience in water treatment design, construction, operation, and watershed evaluations.

§64651.70. Residual Disinfectant Concentration.

“Residual disinfectant concentration” means the concentration of the disinfectant in milligrams per liter (mg/l) in a representative sample of water.

§64651.73. Sedimentation.

“Sedimentation” means a process for removal of settleable solids before filtration by gravity or separation.

§64651.76. Slow Sand Filtration.

“Slow sand filtration” means a process involving passage of raw water through a bed of sand at rates not to exceed 0.10 gallons per minute per square foot resulting in substantial particulate removal by physical and biological mechanisms.

§64651.80. Supplier.

“Supplier,” for the purpose of this chapter, means the owner or operator of a water system for the provision to the public of piped water for human consumption, provided such system has at least 15 service connections or regularly serves at least 25 individuals daily at least 60 days out of the year.

§64651.83. Surface Water.

“Surface water” means all water open to the atmosphere and subject to surface runoff. For purposes of this chapter, water runoff originating from the lined walls and other man-made appurtenant structures of treated water distribution reservoirs, is excluded from the definition of surface water.

§64651.86. Turbidity Level.

“Turbidity level” means the value in NTU obtained by measuring the turbidity of a representative grab sample of water at a specified regular interval of time. If continuous turbidity monitoring is utilized, the turbidity level is the discrete turbidity value at a given time.

§64651.90. Virus.

“Virus” means a virus of fecal origin which is infectious to humans by waterborne transmissions.

§64651.91. Waterborne Microbial Disease Outbreak.

“Waterborne microbial disease outbreak” means the significant occurrence of acute infectious illness, epidemiologically associated with the ingestion of water from a public

water system which is deficient in treatment, as determined by a County Health Officer or the Department.

§64651.93. Watershed.

“Watershed” means the area contained in a drainage basin which is tributary to a water supply diversion point.

**ARTICLE 2. TREATMENT REQUIREMENTS, WATERSHED
PROTECTION REQUIREMENTS, AND PERFORMANCE STANDARDS**
§64652. Treatment Requirements and Compliance Options.

(a) Each supplier using an approved surface water shall provide multibarrier treatment that meets the requirements of this chapter and reliably ensures at least:

(1) A total of 99.9 percent reduction of Giardia cysts through filtration and disinfection; and

(2) A total of 99.99 percent reduction of viruses through filtration and disinfection.

(b) Suppliers meeting the requirements of section 64654 in combination with either section 64652.5 or 64653 shall be deemed to be in compliance with the minimum reduction requirements specified in section 64652(a).

(c) For treatment plants existing as of June 13, 1990, which do not consist of the approved technologies specified in section 64653(a), or are not in compliance with the design criteria specified in section 64658, the supplier shall submit a report demonstrating that the plant can be operated to reliably produce water meeting the performance requirements of sections 64653 and 64654. This demonstration shall be a presentation and analysis of the latest 12 months of operating data, and special studies conducted to test the performance of the plant under adverse water quality conditions or other means. The supplier shall submit the required report within 15 months of being notified by the Department pursuant to section 64650(b) that their plant does not consist of the approved technologies.

(d) No variances from the requirements in this section are permitted.

§64652.5. Criteria for Avoiding Filtration.

(a) A public water system that uses an approved surface water shall meet all of the requirements of this section to avoid the necessity of providing filtration. Within 18 months of the failure of a system using an approved surface water to meet any one of the requirements of Subsections (b) through (l), the system shall have installed filtration and meet the requirements for filtered systems specified in sections 64653, 64658, 64659, 64660, and 64661.

(b) The approved surface water quality shall be monitored downstream of all surface water and groundwater under the influence of surface water contributions and upstream of the first or only point of disinfectant application, as follows:

(1) For fecal or total coliform density at the following minimum frequency each week:

<i>System size (persons served)</i>	<i>Samples/week</i>
<UN-> 500	1
501-3,300	2*
3,301-10,000	3*
10,001-25,000	4*
> 25,000	5*

*Shall be taken on separate days.

(2) For fecal or total coliform density, once every day the turbidity of the source water exceeds 1 NTU unless the Department determines that the system, for logistical reasons outside the system's control, is unable to have the sample analyzed within 30 hours of collection. If collected, these samples count toward the weekly coliform sampling requirement.

(3) For turbidity at a minimum frequency of once every four hours. A supplier may substitute continuous turbidity monitoring for grab sample monitoring if, at regular intervals, it validates the accuracy of the continuous measurement using a protocol approved by the Department.

(c) The approved surface water quality monitored pursuant to Subsection (b) shall meet the following criteria:

(1) The fecal coliform concentration shall be equal to or less than 20/100 ml, or the total coliform concentration shall be equal to or less than 100/100 ml, in representative samples of the approved surface water in at least 90 percent of the measurements made for the six previous months that the system served unfiltered approved surface water to the public on an ongoing basis. If a system measures both fecal and total coliforms, the fecal coliform criterion, not the total coliform criterion, in this paragraph shall be met.

(2) The turbidity level shall not exceed 5 NTU in representative samples of the approved surface water unless:

(A) The Department determines that any such event was caused by circumstances that were unusual and unpredictable; and

(B) As a result of any such event, there have not been more than two events in the past 12 months the system served unfiltered approved surface water to the public, or more than five events in the past 120 months the system served unfiltered approved surface water to the public, in which the turbidity level exceeded 5 NTU. An "event" is one day or a series of consecutive days during which at least one turbidity measurement each day exceeds 5 NTU.

(d) Water quality information collected pursuant to subsection (a) shall be reported to the Department in conformance with the requirements of 40 CFR section 141.75(a)(1) (54 Fed. Reg. 27535, June 29, 1989).

(e) The supplier shall maintain a watershed control program which minimizes the potential for contamination by Giardia cysts and viruses in the source water. The adequacy of a program to limit potential contamination by Giardia cysts and viruses shall be determined by: the comprehensiveness of the watershed review; the effectiveness of the supplier's program to monitor and control detrimental activities occurring in the watershed; and the extent to which the water system has maximized land ownership and/or controlled land use within the watershed. At a minimum, the watershed control program shall:

- (1) Characterize the watershed hydrology and land ownership;
- (2) Identify watershed characteristics and activities which may have an adverse effect on water quality;
- (3) Monitor the occurrence of activities which may have an adverse effect on water quality. The supplier shall demonstrate through ownership and/or written agreements with landowners within the watershed that it can control all human activities which may have an adverse impact on the microbiological quality of the water. The supplier shall submit an annual report to the Department that identifies any special concerns about the watershed and how they are being handled; describes activities in the watershed that affect water quality; and projects what adverse activities are expected to occur in the future and how the public water system expects to address them; and
- (4) Monitor the presence of Giardia cysts in the approved surface water whenever agricultural grazing, water oriented recreation, or point source domestic wastewater discharges occur on the watershed. At a minimum the monitoring shall measure the Giardia cyst concentration monthly at a point immediately prior to the first or only point of disinfectant application. The monitoring results shall be included in an annual report to the Department. This monitoring requirement may be waived after one year for suppliers serving fewer than 500 persons when the monitoring results indicate a mean Giardia cyst concentration of 1 cyst per 100 litres or less.

(f) The water system shall be subject to an annual on-site inspection to assess the watershed control program and disinfection treatment process. Either the Department or a party approved by the Department shall conduct the on-site inspection. The inspection shall be conducted by competent individuals who have a sound understanding of public health principles and waterborne diseases, such as sanitary engineers, civil engineers, environmental health specialists, or technicians who have experience and knowledge about the operation and maintenance of a public water system. A report of the on-site inspection summarizing all findings shall be prepared every calendar year and submitted to the Department, if not conducted by the Department, by December 31 of that year. The on-site inspection shall be comprehensive to enable the Department to determine whether the watershed control program and disinfection treatment process are adequately designed and maintained. The on-site inspection shall include:

- (1) A review of the effectiveness of the watershed control program;
- (2) A review of the physical condition of the source intake and how well it is protected;
- (3) A review of the supplier's equipment maintenance program to ensure there is low probability for failure of the disinfection process;
- (4) An inspection of the disinfection equipment for physical deterioration;

- (5) A review of operating procedures;
- (6) A review of data records to ensure that all required tests are being conducted and recorded and disinfection is effectively practiced; and
- (7) Identification of any improvements which are needed in the equipment, system maintenance and operation, or data collection.

(g) The water system shall not have been identified as a source of a waterborne microbial disease outbreak, or if it has been so identified, the system shall have been modified sufficiently to prevent another such occurrence, as determined by the Department.

(h) The water system shall comply with the total coliform maximum contaminant level (MCL) specified in 22 CCR section 64426.1 at least 11 of the 12 previous months that the system served water to the public on an ongoing basis, unless the Department determines that failure to meet this requirement was not caused by the unfiltered approved surface water.

(i) The water system shall comply with the requirements for trihalomethanes specified in 22 CCR section 64439 unless the Department determines that failure to meet this requirement was not caused by a deficiency in treatment of the unfiltered approved surface water.

(j) The supplier shall provide to the Department an annual report, by December 31st of each year, which summarizes its compliance with all the watershed control program requirements.

(k) The water system shall meet the following special disinfection requirements:

(1) The water system shall not fail to provide disinfection treatment sufficient to ensure at least a 99.9 percent inactivation of Giardia cysts and a 99.99 percent inactivation of viruses for more than one day in any month the water system served unfiltered approved surface water. The means used to demonstrate the required percent inactivation with disinfection shall be as identified in 40 CFR sections 141.72(a)(1), and 141.74(b)(3) and (b)(4). Disinfection information collected pursuant to this subsection shall be reported to the Department in conformance with the requirements of 40 CFR section 141.75(a)(2). The necessity to install filtration as a result of a failure to meet the requirements in subsection (c) will not apply if:

(A) Either the supplier meets the requirements of subsection (c) at least 11 of the 12 previous months that the system served unfiltered approved surface water to the public on an ongoing basis, or

(B) The system fails to meet the requirements of subsection (c) during 2 of the 12 previous months that the system served unfiltered approved surface water to the public, and

(C) The Department determines that failure to meet the requirements in subsection (c) for at least one of these months was caused by circumstances that were unusual and unpredictable.

(2) The disinfection system shall have either:

(A) Redundant components, including an auxiliary power supply with automatic start-up and alarm to ensure that disinfectant application is maintained continuously while water is being delivered to the distribution system; or

(B) Automatic shut-off of delivery of water to the distribution system whenever there is less than 0.2 mg/l of residual disinfectant concentration in the water.

(3) The water system shall meet the requirements of section 64654(b)(1) at all times the system serves unfiltered approved surface water to the public unless the Department determines that any such failure was caused by circumstances that were unusual and unpredictable.

(4) The water system shall meet the requirements of section 64654(b)(2) on an ongoing basis unless the Department determines that failure to meet these requirements was not caused by a deficiency in treatment of the unfiltered approved surface water.

(l) Whenever the monitoring of the quality of the approved surface water indicates the turbidity exceeds 5.0 NTU, or the fecal coliform level exceeds 20/100 mL or the total coliform concentration exceeds 100/100 mL in 10 percent or more of the samples collected in the previous six months during which the system served unfiltered approved surface water to the public on an ongoing basis, the source shall be removed from service. The source may be returned to service when monitoring subsequent to removing the source from service demonstrates that the turbidity is less than or equal to 5.0 NTU and the fecal coliform level is less than or equal to 20/100 mL or the total coliform level is less than or equal to 100/100 mL for two consecutive days, and Giardia monitoring results indicate 1 cyst per 100 liters or less. If a system measures both fecal and total coliforms, the fecal coliform criterion, not the total coliform criterion, in this subsection shall be met.

§64653. Filtration.

(a) All approved surface water utilized by a supplier shall be treated using one of the following filtration technologies unless an alternative process has been approved by the Department pursuant to subsections (f), (g) and (h):

- (1) Conventional filtration treatment
- (2) Direct filtration treatment
- (3) Diatomaceous earth filtration
- (4) Slow sand filtration

(b) Conventional filtration treatment shall be deemed to be capable of achieving at least 99.7 percent removal of Giardia cysts and 99 percent removal of viruses when in compliance with operation criteria specified in section 64660 and performance standards specified in subsection (c). Direct filtration treatment, diatomaceous earth filtration and slow sand filtration shall be deemed to be capable of achieving at least 99 percent removal of Giardia cysts and a 90 percent removal of viruses when in compliance with operation criteria specified in section 64660 and performance standards specified in subsections (c) and (d).

(c) Conventional filtration, direct filtration, or diatomaceous earth filtration shall comply with the following performance standards for each treatment plant:

(1) The turbidity level of the filtered water shall be equal to or less than 0.5 NTU in 95 percent of the measurements taken each month and shall not exceed 5.0 NTU at any time.

(2) For those suppliers using a grab sampling monitoring program the turbidity level of the filtered water shall not exceed 1.0 NTU in more than two samples taken consecutively while the plant is in operation. For those suppliers using a continuous monitoring program the turbidity level of the filtered water shall not exceed 1.0 NTU for more than eight consecutive hours while the plant is in operation.

(d) Slow sand filtration shall comply with the following performance standards for each treatment plant:

(1) The turbidity level of the filtered water shall be less than or equal to 1.0 NTU in 95 percent of the measurements taken each month. However, filtered water from the treatment plant may exceed 1.0 NTU, provided the filter effluent prior to disinfection meets the maximum contaminant level for total coliforms as specified in 22 CCR section 64426.1.

(2) The turbidity level of the filtered water shall not exceed 5.0 NTU at any time.

(e) In order to obtain approval for a higher removal efficiency than that specified in subsection (b), a water supplier shall demonstrate to the Department that the higher removal efficiency can be reliably obtained.

(f) An alternative to the filtration technologies specified in subsection (a) may be used provided that the supplier demonstrates to the Department that the alternative technology provides a minimum of 99 percent Giardia cyst removal and 90 percent virus removal for suppliers serving more than 500 persons, or 90 percent Giardia cyst removal for suppliers serving 500 or fewer persons and meets the turbidity performance standards established in subsection (d). The demonstration shall be based on the results from a prior equivalency demonstration or a testing of a full scale installation that is treating a water with similar characteristics and is exposed to similar hazards as the water proposed for treatment. A pilot plant test of the water to be treated may also be used for this demonstration if conducted with the approval of the Department. The demonstration shall be presented in an engineering report prepared by a qualified engineer.

(g) Suppliers proposing to use an alternative filtration technology may request from the Department a waiver to comply with the requirements of subsection (f) to demonstrate 90 percent virus removal. The request shall be based on a watershed sanitary survey conducted in accordance with section 64665, within 12 months of the date of the request, that demonstrates a lack of virus hazard in the watershed.

(h) The Department's approval of alternative filtration technologies, including establishment of performance standards and monitoring requirements, shall be done in

accordance with the permit process specified in sections 116525 through 116550 of the Health and Safety Code.

(i) Within 60 days following the first full year of operation of a new alternative filtration treatment process approved by the Department, the supplier shall submit an engineering report prepared by a qualified engineer describing the effectiveness of the plant operation. The report shall include results of all water quality tests performed and shall evaluate compliance with established performance standards under actual operating conditions. It shall also include an assessment of problems experienced, corrective actions needed, and a schedule for providing needed improvements.

§64654. Disinfection.

(a) All approved surface water utilized by a supplier shall be provided with continuous disinfection treatment sufficient to insure that the total treatment process provides inactivation of Giardia cysts and viruses, in conjunction with the removals obtained through filtration, to meet the reduction requirements specified in section 64652(a).

(b) Disinfection treatment shall comply with the following performance standards:

(1) Water delivered to the distribution system shall not contain a disinfectant residual of less than 0.2 mg/l for more than four hours in any 24 hour period.

(2) The residual disinfectant concentrations of samples collected from the distribution system shall be detectable in at least 95 percent of the samples taken each month, during each and every two consecutive months that the system serves water to the public, except as provided in subsection (c). At any sample point in the distribution system, the presence of heterotrophic plate count (HPC) at concentrations less than or equal to 500 colony forming units per milliliter shall be considered equivalent to a detectable disinfectant residual.

(c) Paragraph (b)(2) shall not apply to suppliers serving fewer than 500 persons provided:

(1) The system is in compliance with 17 CCR sections 7583 through 7605, and with 22 CCR sections 64566 and 64630; and

(2) The supplier has no means for having a sample transported and analyzed for HPC by a certified laboratory under the appropriate time and temperature conditions and

(3) the supplier is providing adequate disinfection in the distribution system.

(d) No exemptions from the requirement in paragraph (b)(1) are permitted.

ARTICLE 3. MONITORING REQUIREMENTS

§64655. Filtration.

(a) Each supplier using an approved surface water source shall monitor the turbidity level of each raw water supply by the taking and analyzing of daily grab samples.

(b) To determine compliance with the performance standards specified in section 64653, each supplier shall determine the turbidity level of representative samples of the combined filter effluent, prior to clearwell storage, at least once every four hours that the system is in operation, except as provided in subsection (d). Monitoring shall be conducted in accord with the operation plan required by section 64661.

(c) Continuous turbidity measurements may be substituted for grab sample monitoring provided the supplier validates the accuracy of the measurements on a weekly basis.

(d) Suppliers using slow sand filtration or serving 500 or fewer persons which are in compliance with performance standards specified in section 64653, may reduce turbidity monitoring to one grab sample per day.

§64656. Disinfection.

(a) To determine compliance with disinfection inactivation requirements specified in section 64654(a), each supplier shall develop and conduct a monitoring program to measure those parameters that affect the performance of the disinfection process. This shall include but not be limited to the temperature of the disinfected water, the pH(s) of the disinfected water if chlorine is used as a disinfectant, the disinfectant contact time(s) and the residual disinfectant concentration(s) before or at the first customer. The monitoring program shall be described in the operations plan required by section 64661.

(b) To determine compliance with the performance standard specified in section 64654(b)(1), the disinfectant residual concentration of the water being delivered to the distribution system shall be measured and recorded continuously except as provided in subsection (f).

(c) To determine compliance with section 64654(b)(2), the residual disinfectant concentration must be measured at least at the same points in the distribution system and at the same time as total coliforms are sampled in accordance with 22 CCR section 64421, and described in the operations plan required by section 64661, except as provided in subsection (d).

(d) For suppliers that use both an approved surface water and a groundwater, the Department shall approve a request to take disinfectant residual samples at points other than those specified in subsection (c) provided the supplier demonstrates that such sampling points are representative of the disinfected approved surface water in the distribution system.

(e) If there is a failure of continuous disinfectant residual monitoring equipment, grab sampling every four hours may be conducted in lieu of continuous monitoring, but for no more than five working days following the failure of the equipment.

(f) Suppliers serving 3,300 or fewer persons may collect and analyze grab samples of disinfectant residual each day as shown below in lieu of the continuous monitoring

specified in subsection (b), provided that any time the residual disinfectant falls below 0.2 mg/l, the supplier shall take a grab sample every four hours until the residual concentration is equal to or greater than 0.2 mg/l:

<i>System size by population</i>	<i>Samples/day</i>
less than or equal to 500	1
501 - 1,000	2
1,001 - 2,500	3
2,501 - 3,300	4

(g) Suppliers shall describe the location and frequency of sampling to comply with subsection (f) in the operations plan required by section 64661.

ARTICLE 4. DESIGN STANDARDS

§64658. New Treatment Plants.

(a) Suppliers which propose to construct new filtration and disinfection treatment facilities or to modify or make additions to existing treatment facilities which require permit approval from the Department pursuant to Health and Safety Code sections 4011 through 4016¹⁹ shall submit an engineering report to the Department describing how the proposed new treatment facilities will be designed to comply with the treatment, design, performance and reliability provisions required pursuant to this chapter. Modifications requiring permit approval include those that have a significant effect on plant performance, change the plant design rating or capacity, or change a major treatment process.

(b) All new filtration and disinfection facilities shall be designed and constructed to comply with the following criteria:

- (1) Achieve an average daily effluent turbidity goal of 0.2 NTU when using conventional, direct, and diatomaceous earth filtration plants.
- (2) Be free of structural and sanitary hazards.
- (3) Protect against contamination by backflow.
- (4) Meet the capacity and pressure requirements prescribed in 22 CCR sections 64562 and 64566.
- (5) Provide flow measuring and recording equipment.
- (6) Take into consideration the effects of events such as earthquakes, fires, floods, freezing, and sabotage that are reasonably foreseeable.
- (7) Provide reasonable access for inspection, maintenance, and monitoring of all unit processes.
- (8) Provide for filter-to-waste for each filter unit or addition of coagulant chemicals to the water used for backwashing.
- (9) Provide backwash rates and surface or subsurface wash facilities using air, water or a combination thereof to clean the filter after use to its original condition.

¹⁹ Sections 4011 through 4016 have been recodified to 116525 through 116550. OAL has been notified of this by request for a “change without regulatory effect”.

(10) Provide solids removal treatment for filter backwash water if it is recycled into the treatment process. Recycled backwash water shall be returned to the headworks of the treatment plant.

(11) Provide for the future addition of pretreatment facilities in the design of direct filtration, slow sand, or diatomaceous earth filtration plants.

(12) Provide disinfection equipment sized for the full range of flow conditions expected and capable of feeding accurately at all flow rates.

(13) Provide for treatment plant operation without frequent shutdowns and startups or rapid changes in filtration rates.

(c) Whenever a coagulation process is used, the process selection shall be based on pilot plant or laboratory scale (jar test) or equivalent results that demonstrate effectiveness of the coagulant chemicals over the full range of water quality conditions expected.

§64659. Reliability.

(a) The following reliability features shall be included in the design and construction of all new and existing surface water treatment plants:

(1) Alarm devices to provide warning of coagulation, filtration, and disinfection failures. All devices shall warn a person designated by the supplier as responsible for taking corrective action, or have provisions to shut the plant down until corrective action can be taken.

(2) Standby replacement equipment available to assure continuous operation and control of unit processes for coagulation, filtration and disinfection.

(3) A continuous turbidity monitoring and recording unit on the combined filter effluent prior to clearwell storage.

(4) Multiple filter units which provide redundant capacity when filters are out of service for backwash or maintenance.

(b) Alternatives to the requirements specified in section 64659(a) shall be accepted provided the water supplier demonstrates to the satisfaction of the Department that the proposed alternative will assure an equal degree of reliability.

ARTICLE 5. OPERATION

§64660. Operating Criteria.

(a) All treatment plants utilizing an approved surface water shall be operated by operators certified by the Department in accordance with Health and Safety Code section 106885.

(b) Filtration facilities shall be operated in accordance with the following requirements:

(1) Conventional and direct filtration plants shall be operated at flow rates not to exceed 3.0 gallons per minute per square foot (gpm/sq. ft.) for simple media filters and 6.0 gpm/sq. ft. for deep bed, dual or mixed media filters under gravity flow conditions. For pressure filters, filtration rates shall not exceed 2.0 gpm/sq. ft. for simple media filters and 3.0 gpm/sq. ft. for dual, mixed media, or deep bed filters.

(2) Slow sand filters shall be operated at filtration rates not to exceed 0.10 gallon per minute per square foot. The filter bed shall not be dewatered except for cleaning and maintenance purposes.

(3) Diatomaceous earth filters shall be operated at filtration rates not to exceed 1.0 gallon per minute per square foot.

(4) In order to obtain approval for filtration rates higher than, but not more than twice, those specified in section 64660(b)(1), (b)(2), and (b)(3), a water supplier shall demonstrate to the Department that the filters can comply with the performance requirements of section 64653.

(5) In order to obtain approval for filtration rates greater than twice those specified in paragraphs (b)(1), (b)(2), and (b)(3), a water supplier shall demonstrate to the Department that the filters do the following:

(A) Provide a minimum of 99 percent Giardia cyst removal and 90 percent virus removal; and

(B) Meet the turbidity performance standards established in section 64653(c).

(6) Filtration rates shall be increased gradually when placing filters back into service following backwashing or any other interruption in the operation of the filter.

(7) When any individual filter in a conventional or direct filtration plant is placed back into service following backwashing or other interruption event, the filtered water turbidity of the effluent from that filter shall not exceed any of the following:

(A) 2.0 NTU at any time during the first four hours of filter operation following all interruption events.

(B) 1.0 NTU at any time during the first four hours of filter operation following at least 90 percent of the interruption events during any consecutive 12 month period.

(C) 0.5 NTU at the time that the filter has been in operation for 4 hours.

(8) Pressure filters shall be physically inspected and evaluated annually for such factors as media condition, mudball formation, and short circuiting. A written record of the inspection shall be maintained at the treatment plant.

(9) Coagulation and flocculation unit processes shall be in use at all times during which conventional and direct filtration treatment plants are in operation. The effectiveness of these processes shall be demonstrated by either at least an 80 percent reduction through the filters of the monthly average raw water turbidity or jar testing, pilot testing or other means to demonstrate that optimum coagulation is being achieved.

(10) The filtered water turbidity level from each filter unit shall be monitored with a continuous turbidity meter and recorder, or with a grab sampling program designed to identify compliance with the requirements of paragraph (b)(7) and approved by the Department. If this monitoring indicates that any filter unit in a conventional or direct filtration plant is not performing as required in paragraph (b)(7), the filter shall be taken out of service and inspected to determine the cause of its inadequate performance. The filter unit shall not be returned to service until deficiencies have been corrected and operations tests demonstrate that the filter unit is meeting the requirements of paragraph (b)(7).

(c) Disinfection facilities shall be operated in accordance with the following requirements:

(1) A supply of chemicals necessary to provide continuous operation of disinfection facilities shall be maintained as a reserve or demonstrated to be available.

(2) An emergency plan shall be developed prior to initiating operation of the disinfection facilities. The plan shall be implemented in the event of disinfection failure to prevent delivery to the distribution system of any undisinfected or inadequately disinfected water. The plan shall be posted in the treatment plant or other place readily accessible to the plant operator.

§64661. Operations Plan.

(a) With a permit application for a new treatment plant, suppliers shall submit for Department review and approval an operations plan for each treatment plant that treats an approved surface water. The Department shall review the operations plan to determine if it includes those items required in subsection (b). The operations plan shall be designed to produce the optimal water quality from the treatment process. The supplier shall operate its treatment plant in accordance with the approved plan.

(b) The operations plan shall consist of a description of the utility's treatment plant performance monitoring program, unit process equipment maintenance program, operating personnel, including numbers of staff, certification levels and responsibilities; how and when each unit process is operated; laboratory procedures; procedures used to determine chemical dose rates; records; response to plant and watershed emergencies; and reliability features.

§64662. Records.

(a) The supplier shall maintain accurate and complete operation records for each treatment plant that treats an approved surface water. The records shall include but not be limited to the following:

(1) The results of all monitoring conducted in accordance with sections 64655, 64656, and 64660.

(2) Dates on which filter maintenance and inspections were performed and the results of any inspections including pressure filter evaluations required by section 64660(b)(7).

(3) Quantity of water produced, plant flow rates, filtration rates, hours of operation, and backwash rates.

(4) Dates and description of major equipment and process failures and corrective actions taken.

(b) Treatment plant records shall be retained for not less than two years, except where the Department has determined that longer retention times are necessary to complete legal actions taken under the provisions of Health and Safety Code sections 4031 through 4038²⁰.

²⁰ Sections 4031 through 4038 have been recodified to 116625 through 116730. OAL has been notified of this by request for a "change without regulatory effect".

ARTICLE 6. REPORTING**§64663. Department Notification.**

The supplier shall notify the Department as soon as possible, but no later than by the end of the next business day, or within 24 hours, whichever is less, by telephone or other equally rapid means whenever:

(a) The turbidity of the combined filter effluent as monitored pursuant to section 64655 exceeds 5.0 NTU at any time.

(b) More than two consecutive turbidity samples of the combined filter effluent taken every four hours pursuant to section 64655 exceed 1.0 NTU.

(c) There is a failure to maintain a minimum disinfectant residual of 0.2 mg/l in the water being delivered to the distribution system. The supplier shall report whether or not the disinfectant residual was restored to at least 0.2 mg/l within four hours.

(d) An event occurs which may affect the ability of the treatment plant to produce a safe, potable water including but not limited to spills of hazardous materials in the watershed and unit treatment process failures.

(e) The turbidity immediately prior to the first or only point of disinfectant application exceeds 5 NTU for suppliers avoiding filtration.

(f) The supplier discovers the occurrence of an acute infectious illness that may be potentially attributable to the water system.

§64664. Monthly Report.

(a) Each supplier with an approved surface water treatment facility shall submit a monthly report on the operation of each facility to the Department by the tenth day of the following month. The report shall be signed by the chief water treatment plant operator, plant superintendent or other person directly responsible for the operation of the water treatment plant.

(b) The report shall include the following results of turbidity monitoring of the combined filter effluent:

(1) All turbidity measurements taken during the month to determine compliance with section 64653.

(2) The number and percent of turbidity measurements taken during the month which are less than or equal to the performance standard specified for each filtration technology in section 64653, or as required for an alternative treatment process. The report shall also include the date and value of any turbidity measurements that exceed performance levels specified in section 64653.

(3) The average daily turbidity level.

(4) If the turbidity level of the filter effluent from a slow sand filter is greater than 1.0 NTU in five percent or more of the measurements taken that month, the supplier must also report the dates and results of total coliform sampling of the filter effluent prior to disinfection to demonstrate compliance with section 64653(d)(1).

(c) The report shall include the following disinfection monitoring results taken to comply with section 64654:

(1) The date and duration of each instance when the disinfectant residual in water supplied to the distribution system is less than 0.2 mg/l and when the Department was notified of the occurrence.

(2) The following information on samples taken from the distribution system to comply with section 64654(b)(2):

(A) The number of samples where the disinfectant residual is measured.

(B) The number of samples where only the heterotrophic plate count (HPC) is measured.

(C) The number of measurements with no detectable disinfectant residual and no HPC is measured.

(D) The number of measurements with no detectable disinfectant residual and HPC is greater than 500 colony forming units per milliliter.

(E) The number of measurements where only HPC is measured and is greater than 500 colony forming units per milliliter.

(F) For the current and previous month the supplier serves water to the public, the value of V in the following formula:

$$V = \left[1 - \frac{(C + D + E)}{A + B} \right] \times 100$$

Where:

V = the percent of distribution system samples with a detectable residual.

A = the value in paragraph (2)(A) of this subsection.

B = the value in paragraph (2)(B) of this subsection.

C = the value in paragraph (2)(C) of this subsection.

D = the value in paragraph (2)(D) of this subsection.

E = the value in paragraph (2)(E) of this sub section.

(3) For each day the lowest measurement of residual disinfectant concentration in mg/l in the water entering the distribution system.

(d) The report shall include a written explanation of the cause of any violation of performance standards specified in sections 64653 and 64654 and operating criteria specified in sections 64660(b)(6) and (8).

(e) The report shall include a summary of water quality complaints and reports of gastrointestinal illness received from consumers.

ARTICLE 7. WATERSHED SANITARY SURVEYS

§64665. Watershed Requirements.

(a) All suppliers shall have a sanitary survey of their watershed(s) completed at least every five years. The first survey shall be completed by January 1, 1996.

(b) A report of the survey shall be submitted to the Department not later than 60 days following completion of the survey.

(c) The survey and report shall include physical and hydrogeological description of the watershed, a summary of source water quality monitoring data, a description of activities and sources of contamination, a description of any significant changes that have occurred since the last survey which could affect the quality of the source water, a description of watershed control and management practices, an evaluation of the system's ability to meet requirements of this chapter, and recommendations for corrective actions.

ARTICLE 8. PUBLIC NOTIFICATION

§64666. Consumer Notification.

(a) For water systems that filter approved surface water, the supplier shall notify persons served by the system whenever there is a failure to comply with the treatment requirements specified in sections 64652, 64653, and 64654(a) or performance standards specified in section 64653(c)(1), (d), (h), and section 64654(b).

(b) For water systems that do not filter approved surface water, the supplier shall notify persons served by the system whenever:

(1) There is a failure to comply with sections 64652.5(b) through (k), sections 64652 and 64654(a), or section 64654(b);

(2) The turbidity level in a representative sample of the approved surface water immediately prior to the first or only point of disinfectant application exceeds 5 NTU; or

(3) The unfiltered approved surface water has been identified as a source of waterborne microbial disease outbreak.

(c) The notification required by either subsections (a) or (b) shall be given in accordance with section 64464.3(a)(2), and shall include the following mandatory language:

“ The State of California Department of Health Services (DHS) sets drinking water standards and has determined the presence of microbiological contaminants are a health concern at certain levels of exposure. If water is inadequately treated, microbiological contaminants in that water may cause disease. Disease symptoms may include diarrhea, cramps, nausea, and possibly jaundice, and any associated headaches and fatigue. These symptoms, however are not just associated with disease-causing organisms in drinking water, but also may be caused by a number of factors other than your drinking water. DHS has set enforceable requirements for treating drinking water to reduce the risk of these adverse health effects. Treatment such as filtering and disinfecting the water removes or destroys microbiological contaminants. Drinking water which is treated to meet DHS requirements is associated with little to none of this risk and should be considered safe.”

(d) For water systems that filter approved surface water, the supplier shall notify persons served by the system whenever there is a failure to comply with the monitoring

requirements specified in sections 64655 or 64656. The notification shall be given in accordance with section 64464.6.

(e) For water systems that do not filter approved surface water, the supplier shall notify persons served by the system whenever there is a failure to comply with the monitoring requirements specified in sections 64652.5(b), (d), or (e), or 64656. The notification shall be given in accordance with section 64464.6.

(f) If a supplier is unable to remove a source from service pursuant to section 64652.5(l), the supplier shall notify the Department immediately, and notify persons served by the system pursuant to section 64465, using the language in subsection (c).

CHAPTER 17.5. LEAD AND COPPER

ARTICLE 1. GENERAL REQUIREMENTS AND DEFINITIONS

§64670. General Requirements.

(a) The requirements of this chapter constitute the primary drinking water standards for lead and copper. Unless otherwise indicated, each of the provisions of this chapter applies to community water systems and non-transient, non-community water systems (hereinafter referred to as “water systems” or “systems”).

(b) Each water system shall install and operate optimal corrosion control treatment.

(c) Failure to comply with the applicable requirements of Articles 1 through 9, including requirements established by the Department pursuant to these provisions, shall constitute a violation of the primary drinking water standards for lead and/or copper.

§64671.05. Action Level.

“Action level,” for the purpose of this chapter only, means the concentration of lead or copper in water which is used to determine the treatment requirements contained in this chapter that a water system is required to complete.

§64671.10. Corrosion Inhibitor.

“Corrosion inhibitor” means a substance capable of reducing the corrosivity of water toward metal plumbing materials, especially lead and copper, by forming a protective film on the interior surface of those materials.

§64671.15. Detection Limit for Purposes of Reporting (DLR).

“Detection limit for purposes of reporting (DLR)” means the designated minimum level at or above which any analytical finding of a contaminant in drinking water resulting from monitoring required under this chapter shall be reported to the Department.

§64671.20. Effective Corrosion Inhibitor Residual.

“Effective corrosion inhibitor residual” means a concentration of corrosion inhibitor that is sufficient to form a passivating film on the interior walls of a pipe.

§64671.25. First Draw Sample.

“First draw sample” means a one liter sample of tap water, collected in accordance with Section 64683(b), that has been standing in plumbing pipes at least six hours and is collected without flushing the tap.

§64671.30. Large Water System.

“Large water system,” for the purpose of this chapter only, means a water system that serves more than 50,000 persons.

§64671.35. Lead Service Line.

“Lead service line” means a service line made of lead which connects the water main to the building inlet and any lead pigtail, gooseneck or other fitting which is connected to such lead line.

§64671.40. Medium-Size Water System.

“Medium-size water system,” for the purpose of this chapter only, means a water system that serves greater than 3,300 and less than or equal to 50,000 persons.

§64671.50. Optimal Corrosion Control Treatment.

“Optimal corrosion control treatment” means the corrosion control treatment that minimizes the lead and copper concentrations at users' taps without causing the water system to violate any primary drinking water standards.

§64671.60. Service Line Sample.

“Service line sample” means a one-liter sample of water, collected in accordance with Section 64683(c), that has been standing for at least six hours in a service line.

§64671.65. Single-Family Structure.

“Single-family structure” means a building constructed as a single-family residence that is currently used as either a residence or a place of business.

§64671.70. Small Water System.

“Small water system,” for the purpose of this chapter only, means a water system that serves 3,300 persons or fewer.

§64672. Analytical Methods and Detection Limits.

(a) Analyses for lead, copper, pH, conductivity, calcium, alkalinity, orthophosphate, silica, and temperature shall be conducted using the methods as prescribed at 40 Code of Federal Regulations, Section 141.89. Field tests shall be performed by water treatment operator certified by the Department pursuant to Section 106875 of the Health and Safety Code or by personnel trained to perform these tests by the Department, a certified laboratory, or certified operator.

(b) The detection limits for purposes of reporting (DLRs) for lead and copper are as follows:

<u>Contaminant</u>	<u>DLR (mg/L)</u>
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Lead	0.005
Copper	0.050

(c) For purposes of determining the need for corrosion control studies, pursuant to 64673(b)(3), which are based on the difference in concentration between the source water and the 90th percentile tap results, the following shall apply:

(1) Analytical results for lead greater than or equal to 0.001 mg/L and less than 0.005 mg/L shall be as measured or 0.0025mg/L, whichever is greater.

(2) Analytical results for copper greater than or equal to 0.001 mg/L and less than 0.050 mg/L shall be as measured or 0.025 mg/L, whichever is greater.

(3) Analytical results below 0.001 mg/L for lead and copper shall be considered zero.

(d) Analytical results below the detection limits for purposes of reporting for lead and copper specified in subsection (b) shall be reported as zero.

§64672.3. Determination of Compliance with Lead and Copper Action Levels.

(a) The lead action level is exceeded if the concentration of lead in more than 10 percent of tap water samples collected during any monitoring period conducted in accordance with Article 6 is greater than 0.015 mg/L (i.e., if the “90th percentile” lead level is greater than 0.015 mg/L).

(b) The copper action level is exceeded if the concentration of copper in more than 10 percent of tap water samples collected during any monitoring period conducted in accordance with Article 6 is greater than 1.3 mg/L (i.e., if the “90th percentile” copper level is greater than 1.3 mg/L).

(c) The 90th percentile lead and copper levels shall be computed as follows:

(1) The results of all lead or copper samples taken during a monitoring period shall be placed in ascending order from the sample with the lowest concentration to the sample with the highest concentration. Each sampling result shall be assigned a number, ascending by single integers beginning with the number 1 for the sample with the lowest contaminant level. The number assigned to the sample with the highest contaminant level shall be equal to the total number of samples taken.

(2) The number of samples taken during the monitoring period shall be multiplied by 0.9.

(3) The contaminant concentration in the numbered sample yielded by the calculation in paragraph (c)(2) is the 90th percentile contaminant level.

(4) For water systems serving less than or equal to 100 people that collect 5 samples per monitoring period, the 90th percentile is computed by taking the average of the highest and second highest concentrations.

§64672.6 Use of Information Developed Prior to December 1, 1995.

(a) A system may submit to the Department information developed after June 7, 1991 for compliance with 40 CFR Part 141, National Primary Drinking Water Regulations,

Subpart I, Control of Lead and Copper, 141.80 through 141.91, to fulfill requirements of this chapter.

(b) A large water system which relies on a corrosion control study completed before December 1, 1995 shall:

- (1) Install optimal corrosion control treatment by January 1, 1997;
- (2) Complete follow-up sampling by January 1, 1998; and
- (3) After July 1, 1998, the system shall operate in compliance with the optimal water quality control parameters as designated by the Department and shall continue to conduct tap sampling as directed in Sections 64685 and 64688.

(c) A medium-size or small water system which relies on tap monitoring or a corrosion control study completed before December 1, 1995 shall:

- (1) Install optimal corrosion control treatment within 24 months after such treatment has been designated, but in no case later than January 1, 1998;
- (2) Complete follow-up sampling within 36 months of treatment installation, but in no case later than January 1, 2001;
- (3) After July 1, 2001, the small or medium-size water system shall operate in compliance with the optimal water quality control parameters designated by the Department and continue to conduct tap sampling as directed in Sections 64685 and 64688.

ARTICLE 2. CORROSION CONTROL TREATMENT REQUIREMENTS

§64673. Treatment Requirements.

(a) Each water system shall install and operate optimal corrosion control treatment as described in Section 64676.

(b) A system is deemed to have optimized corrosion control and is not required to complete the applicable corrosion control treatment steps identified in Sections 64674 and 64675 if the system satisfies one of the following criteria:

(1) A small or medium-size water system is deemed to have optimized corrosion control if the system does not exceed the lead and copper action levels during each of two consecutive six-month monitoring periods conducted in accordance with Article 6.

(2) The system demonstrates to the Department that it has conducted activities equivalent to the corrosion control steps applicable to the system under Sections 64674 or 64675. If the Department makes this determination, it shall provide the system with written notice explaining the basis for its decision and shall specify the water quality control parameters representing optimal corrosion control in accordance with Section 64676(f). The system shall provide the Department with the following information in order to support a determination under this paragraph:

(A) The results of all test samples collected for each of the water quality parameters in Section 64676(c)(3);

(B) A report explaining the test methods used by the water system to evaluate the corrosion control treatments listed in Section 64676(c)(1), the results of all

tests conducted, and the basis for the system's selection of optimal corrosion control treatment;

(C) A report explaining how corrosion control has been installed and how it is being maintained to insure minimal lead and copper concentrations at consumers' taps; and

(D) The results of tap water samples collected in accordance with Article 6 at least once every six months for one year after corrosion control has been installed.

(3) A water system is deemed to have optimized corrosion control if it submits results of tap water monitoring conducted in accordance with Article 6 and source water monitoring conducted in accordance with Article 8 that demonstrate for two consecutive six-month monitoring periods that the difference between the 90th percentile tap water lead level computed under Section 64672.3(c), and the highest source water lead concentration, is less than the detection limit for purposes of reporting in Section 64672(b).

(c) A small or medium-size water system that is required to complete the corrosion control treatment due to its exceedance of the lead or copper action level may cease completing the treatment steps specified in Section 64675 whenever the system does not exceed either action level during each of two consecutive monitoring periods conducted pursuant to Article 6 and submits the results to the Department. If any such water system thereafter exceeds the lead or copper action level during any monitoring period, the system shall recommence completion of the applicable treatment steps specified in Section 64675, beginning with the first treatment step which was not previously completed in its entirety. The Department may require a system to repeat treatment steps previously completed by the system where the Department determines that this is necessary to implement properly the treatment requirements of this section. The Department shall notify the system in writing of such a determination and explain the basis for its decision.

§64674. Corrosion Control Treatment Deadlines for Large Water Systems.

(a) Except as provided in Sections 64672.6(b), and 64673(b)(2) and (3), large systems shall take the following corrosion control treatment steps by the indicated dates:

(1) Conduct initial monitoring during two consecutive six-month monitoring periods by January 1, 1997 to meet the requirements in Sections 64684(b) and 64687.

(2) Complete corrosion control studies by July 1, 1998 to meet the requirements in Section 64676(c).

(3) Begin installation of optimal corrosion control treatment by January 1, 1999 according to Section 64676(d).

(4) Complete installation of optimal corrosion control treatment by January 1, 2001 to meet the requirements in Section 64676(e).

(5) Complete follow-up sampling by January 1, 2002 to meet the requirements in Sections 64685(a) and 64688(a).

(6) Operate in compliance with the optimal water quality control parameters designated by the Department by July 1, 2002 pursuant to Section 64676(f).

(7) Continue to operate in compliance with the optimal water quality control parameters specified by the Department and continue to conduct tap sampling pursuant to Sections 64676(g), 64685(b), and 64688(b).

§64675. Corrosion Control Treatment Deadlines for Small and Medium-Size Water Systems.

(a) Except as provided in Section 64672.6(c) and Section 64673(b), small and medium-size water systems shall take the following corrosion control treatment steps by the indicated time periods:

(1) By January 1, 1996, each system shall begin initial monitoring. The system shall conduct monitoring during each six-month period until either the system becomes eligible for reduced monitoring under Section 64685(c) and (d), or the system exceeds the lead or copper action level. Each system which exceeds the lead or copper action level shall provide to the Department a recommendation of optimal corrosion control treatment pursuant to Section 64676(a) within six months after it exceeds the action level.

(2) If the lead or copper action level is exceeded pursuant to Section 64672.3, initiate corrosion control studies pursuant to Section 64676(b) if required to do so by the Department. If the system is not required to perform such studies, the system shall begin installation of optimal corrosion control treatment designated by the Department within the following time frames:

(A) for medium-size systems, within 12 months after such system exceeds the lead or copper action level.

(B) for small systems, within 18 months after such system exceeds the lead or copper action level.

(3) If the Department requires the system to perform corrosion control studies under paragraph (2), complete the studies within 18 months after receiving notice that the Department requires that such studies be conducted.

(4) If the system has performed corrosion control studies under paragraph (2), begin installation of optimal corrosion control treatment designated by the Department within six months after completion of the corrosion control studies.

(5) Complete installation of optimal corrosion control treatment within 24 months after the Department has designated such treatment.

(6) Complete follow-up sampling within 36 months after receiving notice that the Department has designated optimal corrosion control treatment.

(7) Within 42 months after receiving notice that the Department has designated optimal corrosion control treatment, operate in compliance with optimal water quality control parameters designated pursuant to Section 64676(f).

(8) Operate in compliance with the optimal water quality control parameters specified by the Department and continue to conduct tap sampling pursuant to Sections 64676(g), 64685(b) and 64688(b).

§64676. Corrosion Control Treatment Requirements.

(a) Based upon the results of lead and copper tap monitoring and water quality parameter monitoring, small and medium-size water systems exceeding the lead or copper action level shall recommend to the Department installation of one or more of the

corrosion control treatments listed in paragraph (c)(1) of this section which the system believes constitutes optimal corrosion control for that system. The Department may require the system to conduct additional water quality parameter monitoring in accordance with Section 64687 to assist the Department in reviewing the system's recommendation.

(b) The Department may require a small or medium-size system, that exceeds the lead or copper action level to perform corrosion control studies under subsection (c) of this section, to identify optimal corrosion control treatment for the system if the water quality, distribution system, water treatment, or other features of the system are unique

(c) Each public water system performing corrosion control studies shall:

(1) Evaluate the effectiveness of each of the following treatments, and, if appropriate, combinations of the following treatments to identify the optimal corrosion control treatment for that system:

(A) Alkalinity and pH adjustment;

(B) Calcium hardness adjustment; and

(C) The addition of a phosphate or silicate based corrosion inhibitor at a concentration sufficient to maintain an effective residual concentration throughout the distribution system.

(2) Evaluate each of the corrosion control treatments using either pipe rig/loop tests, metal coupon tests, partial-system tests, or analyses based on documented analogous treatments with other systems of similar size, water chemistry and distribution system configuration.

(3) Measure the following water quality parameters in any tests conducted under this subsection before and after evaluating the corrosion control treatments listed above:

(A) Lead;

(B) Copper;

(C) pH;

(D) Alkalinity;

(E) Calcium;

(F) Conductivity;

(G) Orthophosphate (when an inhibitor containing a phosphate compound is used);

(H) Silicate (when an inhibitor containing a silicate compound is used);

(I) Water temperature.

(4) Identify all chemical or physical constraints that limit or prohibit the use of a particular corrosion control treatment and document such constraints with at least one of the following:

(A) Data and documentation showing that a particular corrosion control treatment has adversely affected other water treatment processes when used by another water system with comparable water quality characteristics; and/or

(B) Data and documentation demonstrating that the water system has previously attempted to evaluate a particular corrosion control treatment and has found

that the treatment is ineffective or adversely affects other water quality treatment processes.

(5) Evaluate the effect of the chemicals used for corrosion control treatment on other water treatment processes.

(6) Recommend to the Department in writing the treatment option that the corrosion control studies indicate constitutes optimal corrosion control treatment for that system on the basis of an analysis of the data generated during each evaluation. The water system shall provide a rationale for its recommendation along with all supporting documentation specified in paragraphs (c)(1) through (5) of this section.

(d) Based upon consideration of available information including, where applicable, studies performed under paragraph (c) of this section, and a system's recommended treatment alternative, the Department shall either approve the corrosion control treatment option recommended by the system, or designate alternative corrosion control treatment(s) from among those listed in paragraph (c)(1) of this section. When designating optimal treatment the Department shall consider the effects that additional corrosion control treatment will have on water quality parameters and on other water treatment processes. The Department shall notify the system of its decision on optimal corrosion control treatment in writing and explain the basis for this determination. If the Department requests additional information to aid its review, the water system shall provide the information.

(e) Each system shall properly install and operate throughout its distribution system the optimal corrosion control treatment designated by the Department under paragraph (d) of this section.

(f) After the system installs optimal corrosion control treatment, the Department shall review the treatment and specify optimal water quality control parameters as follows:

(1) a minimum value or a range of values for pH measured at each entry point to the distribution system:

(2) a minimum pH value, measured in all tap samples. Such value shall be equal to or greater than 7.0, unless the Department determines that meeting a pH level of 7.0 is not technologically feasible or is not necessary for the system to optimize corrosion control;

(3) if a corrosion inhibitor is used, a minimum concentration or a range of concentrations for the inhibitor, measured at each entry point to the distribution system and in all tap samples, that the Department determines is necessary to form a passivating film on the interior walls of the pipes of the distribution system;

(4) if alkalinity is adjusted as part of optimal corrosion control treatment, a minimum concentration or a range of concentrations for alkalinity, measured at each entry point to the distribution system and in all tap samples;

(5) if calcium carbonate stabilization is used as part of corrosion control, a minimum concentration or a range of concentrations for calcium, measured in all tap samples;

(6) values for additional water quality control parameters determined by the Department to reflect optimal corrosion control for the system.

(g) Each system shall maintain water quality parameter values at or above minimum values or within ranges designated by the Department under subsection (f) in each sample collected under Section 64688(b). If the water quality parameter value of any sample is below the minimum value or outside the range designated by the Department, then the system is out of compliance with this section. As specified in Section 64688(b), the system may take a confirmation sample for any water quality parameter value no later than 3 days after the first sample. If a confirmation sample is taken, the result shall be averaged with the first sampling result and the average shall be used for any compliance determinations under this subsection.

(h) Upon its own initiative or in response to a request by a water system or other interested party, the Department may modify its determination of the optimal corrosion control treatment under subsection (d) or optimal water quality control parameters under subsection (f). A request for modification by a system or other interested party shall be in writing, explain the reason for the requested modification, and include supporting documentation. The Department may modify its determination where it concludes that such change is necessary to ensure that the system continues to optimize corrosion control treatment. A revised determination shall be made in writing, set forth the new treatment requirements, explain the basis for the Department's decision, and provide an implementation schedule for completing the treatment modifications.

ARTICLE 3. SOURCE WATER TREATMENT REQUIREMENTS

§64677. Source Water Treatment to Control Lead and Copper.

(a) A system exceeding the lead or copper action level shall complete lead and copper source water monitoring pursuant to Section 64690 and make a treatment recommendation to the Department pursuant to Section 64678(a) within six months from receipt of sample reports indicating the lead or copper action level is exceeded.

(b) The Department shall make a determination regarding source water treatment pursuant to Section 64678(b) within six months after submission of monitoring results under subsection (a). If no determination is made by the Department within six months, and the Department has not requested additional information pursuant to Section 64678(b) to aid in its review, the source water treatment recommendation made by the system under subsection (a) shall be deemed approved.

(c) If the installation of source water treatment is required the system shall install treatment pursuant to Section 64678(c) within 24 months after completion of subsection (b).

(d) The system shall complete follow-up tap water monitoring pursuant to Section 64685(a) and source water monitoring pursuant to Section 64690(b) within 36 months after completion of subsection (b).

(e) The system shall operate in compliance with the Department-specified maximum permissible lead and copper source water levels pursuant to Section 64678(d) and continue source water monitoring pursuant to Section 64690(c).

§64678. Source Water Treatment Requirements.

(a) Each system which exceeds the lead or copper action level shall either recommend to the Department the installation and operation of one of the source water treatments listed in subsection (b) or demonstrate that source water treatment is not needed to minimize lead and copper levels at users' taps.

(b) The Department shall evaluate the results of all source water samples submitted by the water system to determine whether source water treatment is necessary to minimize lead or copper levels in water delivered to users' taps. If the Department determines that treatment is needed, the water system shall install and operate one of the following source water treatments as directed by the Department: ion exchange, reverse osmosis, lime softening, or coagulation/filtration. The Department shall notify the system in writing of its determination and set forth the basis for its decision. The water system shall provide any additional information requested by the Department to aid in its review.

(c) Each system shall properly install and operate the source water treatment designated by the Department under subsection (b).

(d) The Department shall review the source water samples pursuant to Sections 64690(a) and (b) before and after the system installs source water treatment. Based upon its review, the Department shall designate the maximum permissible lead and copper concentrations for treated water entering the distribution system. Such levels shall reflect the contaminant removal capability of the treatment when properly operated and maintained. The Department shall notify the system in writing and explain the basis for its decision.

(e) Each water system shall maintain lead and copper levels below the maximum permissible concentrations designated by the Department at each sampling point monitored in accordance with Article 8.

(f) The Department may modify its determination of the source water treatment under subsection (b), or maximum permissible lead and copper concentrations for treated water entering the distribution system under subsection (d). A request for modification by the system shall be in writing, explain why the modification is appropriate, and provide supporting documentation. The Department may modify its determination where it concludes that such change is necessary to ensure that the system continues to minimize lead and copper concentrations in water entering the distribution system. A revised determination shall be made in writing, set forth the new treatment requirements, explain the basis for the Department's decision, and provide an implementation schedule for completing the treatment modification.

ARTICLE 4. LEAD SERVICE LINE REPLACEMENT REQUIREMENTS

§64679. Lead Service Line Replacement.

(a) Systems that exceed the lead action level in tap samples taken pursuant to Section 64685(a), after installing corrosion control and/or source water treatment (whichever sampling occurs later), shall replace lead service lines in accordance with the requirements of this section. If a system is in violation of Article 2 or 3 for failure to install source water or corrosion control treatment, the system shall commence lead service line replacement under this section after the date by which the system was required to conduct monitoring under Section 64685(a) has passed.

(b) A system which is required to conduct lead service line replacement shall replace annually at least 7 percent of the initial number of lead service lines in its distribution system. The initial number of lead service lines is the number of lead lines in place at the time the replacement program begins. The system shall identify the initial number of lead service lines in its distribution system based upon a materials evaluation, including the evaluation required under Section 64682. The first year of lead service line replacement shall begin on the date the action level was exceeded in tap sampling referenced in subsection (a).

(c) A system is not required to replace an individual lead service line if the lead concentration in each and every service line sample from that line, taken pursuant to Section 64683(c), is less than or equal to 0.015 mg/L.

(d) A water system shall replace the entire service line (up to the building inlet) unless it demonstrates that it controls less than the entire service line. In such cases, the system shall replace the portion of the line which is under the system's control. The system shall notify the user served by the line that the system will replace the portion of the service line under its control and shall offer to replace the building owner's portion of the line with the cost being borne by the building owner. For buildings where only a portion of the lead service line is replaced, the water system shall inform the resident(s) that the system will collect a first flush tap water sample after partial replacement of the service line is completed if the resident(s) so desire. In cases where the resident(s) accept the offer, the system shall collect the sample and report the results to the resident(s) within 14 days following partial lead service line replacement.

(e) For purposes of lead service line replacement, a water system controls the entire lead service line (up to the building inlet) unless the system demonstrates, under Section 64691(e)(4), that it does not have any of the following forms of control over the entire line:

- (1) Authority to set standards for construction, repair, or maintenance of the line,
- (2) Authority to replace, repair, or maintain the service line, or
- (3) Ownership of the service line.

(f) A system shall replace lead service lines on a shorter schedule than that required by subsection (b), taking into account the number of lead service lines in the system, where the Department determines that a shorter replacement schedule is necessary based

on known health risks in the population served, or that it is feasible to complete the lead service line replacement program in a shorter time without increasing the water rates to the customers. The Department shall make this determination in writing and notify the system of its finding within 6 months after the system is triggered into lead service line replacement based on monitoring referenced in subsection (a).

(g) A system may cease replacing lead service lines whenever first draw samples collected pursuant to Section 64683(b) do not exceed the lead action level during each of two consecutive monitoring periods and the system submits the results to the Department. If the first draw samples collected in any such water system thereafter exceeds the lead action level, the system shall recommence replacing lead service lines, pursuant to subsection (b).

ARTICLE 5. PUBLIC EDUCATION AND SUPPLEMENTAL MONITORING REQUIREMENTS

§64680. Notification Language for Lead.

(a) A water system that exceeds the lead action level based on tap water samples collected in accordance with Article 6 shall deliver the public education materials contained in paragraphs (1) and (2) of this subsection in accordance with the requirements in subsection (b).

(1) A water system shall include the following text in all of the printed materials it distributes through its lead public education program. Any additional information presented by a system shall be consistent with the information below and be in plain language that can be understood by laypersons.

(A) INTRODUCTION. The California Department of Health Services (DHS), the U.S. Environmental Protection Agency, and [insert name of water supplier] are concerned about lead in your drinking water. Although most homes have very low levels of lead in their drinking water, some homes in the community have lead levels above the state and federal action level of 15 parts per billion (ppb), or 0.015 milligrams of lead per liter of water (mg/L). Under state and federal law we are required to have a program in place to minimize lead in your drinking water by [insert date when corrosion control will be completed for your system]. This program includes corrosion control treatment, source water treatment, and public education. We are also required to replace each lead service line that we control if the line contributes lead concentrations of 15 ppb or more after we have completed the comprehensive treatment program. If you have any questions about how we are carrying out the requirements of the lead regulation please give us a call at [insert water system's phone number]. This brochure explains the simple steps you take to protect you and your family by reducing your exposure to lead in drinking water.

(B) HEALTH EFFECTS OF LEAD. Lead is a common metal found throughout the environment in lead-based paint, air, soil, household dust, food, certain types of pottery porcelain and pewter, and water. Lead can pose a significant risk to your health if too much of it enters your body. Lead builds up in the body over many years and can cause damage to the brain, red blood cells and kidneys. The greatest risk is to young children and pregnant women. Amounts of lead that won't hurt adults can slow down normal mental and physical development of growing bodies. In addition, a child at play

often comes into contact with sources of lead contamination -- like dirt and dust -- that rarely affect an adult. It is important to wash children's hands and toys often, and to try to make sure they only put food in their mouths.

(C) LEAD IN DRINKING WATER

1. Lead in drinking water, although rarely the sole cause of lead poisoning, can significantly increase a person's total lead exposure, particularly the exposure of infants who drink baby formulas and concentrated juices that are mixed with water. The U.S. Environmental Protection Agency estimates that drinking water can make up 20 percent or more of a person's total exposure to lead.

2. Lead is unusual among drinking water contaminants in that it seldom occurs naturally in water supplies like rivers and lakes. Lead enters drinking water primarily as a result of the corrosion, or wearing away, of materials containing lead in the water distribution system and household plumbing. These materials include lead-based solder used to join copper pipe, brass and chrome plated brass faucets, and in some cases, pipes made of lead that connect your house to the water main (service lines). In 1986, Congress banned the use of lead solder containing greater than 0.2% lead, and restricted the lead content of faucets, pipes and other plumbing materials to 8.0%. In California, a similar law prohibiting the use of both lead solder and lead pipe was enacted in 1985.

3. When water stands in lead pipes or plumbing systems containing lead for several hours or more, the lead may dissolve into your drinking water. This means the first water drawn from the tap in the morning, or later in the afternoon after returning from work or school, can contain fairly high levels of lead.

(D) STEPS YOU CAN TAKE IN THE HOME TO REDUCE EXPOSURE TO LEAD IN DRINKING WATER

1. Despite our best efforts mentioned earlier to control water corrosivity and remove lead from the water supply, lead levels in some homes or buildings can be high. To find out whether you need to take action in your own home, have your drinking water tested to determine if it contains excessive concentrations of lead. Testing the water is essential because you cannot see, taste, or smell lead in drinking water. Some local laboratories that can provide this service are listed at the end of this booklet. For more information on having your water tested, please call [insert phone number of water system].

2. If a water test indicates that the drinking water drawn from a tap in your home contains lead above 15 ppb, then you should take the following precautions:

A. Let the water run from the tap before using it for drinking or cooking any time the water in a faucet has gone unused for more than six hours. The longer water resides in your home's plumbing the more lead it may contain. Flushing the tap means running the cold water faucet until the water gets noticeably colder, usually about 15 to 30 seconds. If your house has a lead service line to the water main, you may have to flush the water for a longer time, perhaps one minute, before drinking. Although toilet flushing or showering flushes water through a portion of your home's plumbing system, you still need to flush the water in each faucet before using it for drinking or cooking. Flushing tap water is a simple and inexpensive measure you can take to protect your family's health. It usually uses less than one or two gallons of water

and costs less than [insert a cost estimate based on flushing two times a day for 30 days] per month. To conserve water, fill a couple of bottles for drinking water after flushing the tap, and whenever possible use the first flush water to wash the dishes or water the plants. If you live in a high-rise building, letting the water flow before using it may not work to lessen your risk from lead. The plumbing systems have more, and sometimes larger pipes than smaller buildings. Ask your landlord for help in locating the source of the lead and for advice on reducing the lead level.

B. Try not to cook with, or drink water from the hot water tap. Hot water can dissolve more lead more quickly than cold water. If you need hot water, draw water from the cold tap and heat in on the stove.

C. Remove loose lead solder and debris from the plumbing materials installed in newly constructed homes, or homes in which the plumbing has recently been replaced, by removing the faucet strainers from all taps and running the water from 3 to 5 minutes. Thereafter, periodically remove the strainers and flush out any debris that has accumulated over time.

D. If your copper pipes are joined with lead solder that has been installed illegally since it was banned in 1986, notify the plumber who did the work and request that he or she replace the lead solder with lead-free solder. Lead solder looks dull gray, and when scratched with a key looks shiny. In addition, notify the California Department of Health Services, your local environmental health department, and building authority about the violation.

E. Determine whether or not the service line that connects your home or apartment to the water main is made of lead. The best way to determine if your service line is made of lead is by either hiring a licensed plumber to inspect the line or by contacting the plumbing contractor who installed the line. You can identify the plumbing contractor by checking the record of building permits which should be maintained in the files of the [insert name of department that issues building permits]. A licensed plumber can at the same time check to see if your home's plumbing contains lead solder, lead pipes, or pipe fittings that contain lead. The public water system that delivers water to your home should also maintain records of the materials located in the distribution system. If the service line that connects your dwelling to the water main contributes more than 15 ppb to drinking water, after our comprehensive treatment program is in place, we are required to replace the line. If the line is only partially controlled by the [insert name of the city, county, or water system that controls the line], we are required to provide you with information on how to replace your portion of the service line, and offer to replace that portion of the line at your expense and take a follow-up tap water sample within 14 days of the replacement. Acceptable replacement alternatives include copper, steel, iron, and plastic pipes.

F. Have an electrician check your wiring. If grounding wires from the electrical system are attached to your pipes, corrosion may be greater. Check with a licensed electrician or your local electrical code to determine if your wiring can be grounded elsewhere. DO NOT attempt to change the wiring yourself because improper grounding can cause electrical shock and fire hazards.

3. The steps described above will reduce the lead concentrations in your drinking water. However, if a water test indicates that the drinking water coming from your tap contains lead concentrations in excess of 15 ppb after

flushing, or after we have completed our actions to minimize lead levels, then you may want to take the following additional measures:

A. Purchase or lease a home treatment device. Home treatment devices are limited in that each unit treats only the water that flows from the faucet to which it is connected, and all of the devices require periodic maintenance and replacement. Devices such as reverse osmosis systems or distillers can effectively remove lead from your drinking water. Since these treatments remove dissolved minerals, water treated by these devices will have a greater tendency to leach lead from brass faucets or fittings which the water contacts after treatment. Some activated carbon filters may reduce lead levels at the tap; however all lead reduction claims should be investigated. Be sure to check the actual performance of a specific home treatment device before and after installing the unit. The California Department of Health Services certifies the effectiveness of home treatment devices. Only devices certified by the California Department of Health Services to remove lead should be used for this purpose.

B. Purchase bottled water for drinking and cooking.

4. You can consult a variety of sources for additional information. Your family doctor or pediatrician can perform a blood test for lead and provide you with information about the health effects of lead. State and local government agencies that can be contacted include:

A. [insert the name of city or county department of public utilities] at [insert phone number] can provide you with information about your community's water supply, and a list of local laboratories that have been certified by the California Department of Health Services for testing water quality;

B. [insert the name of city or county department that issues building permits] at [insert phone number] can provide you with information about building permit records that should contain the names of plumbing contractors that plumbed your home; and

C. California Department of Health Services, Childhood Lead Poisoning Prevention Branch at [insert the phone number] or the [insert the name of the city or county health department] at [insert phone number] can provide you with information about the health effects of lead and how you can have your child's blood tested.

5. The following is a list of some state approved laboratories in your area that you can call to have your water tested for lead. [Insert names and phone numbers of at least two laboratories].

(2) A water system shall include the following information in all public service announcements submitted under its lead public education program to television and radio stations for broadcasting:

(A) Why should everyone want to know the facts about lead and drinking water? Because unhealthy amounts of lead can enter drinking water through the plumbing in your home. That's why I urge you to do what I did. I had my water tested for [insert free or cost per sample]. You can contact the [insert the name of the city or water system] for information on testing and on simple ways to reduce your exposure to lead in drinking water.

(B) To have your water tested for lead, or to get more information about this public health concern, please call [insert the phone number of the city or water system].

(b) The water system shall conform with the following requirements concerning delivery of the public education program.

(1) In communities where a significant proportion of the population speaks a language other than English, public education materials shall be communicated in the appropriate language(s).

(2) A community water system that exceeds the lead action level on the basis of tap water samples collected in accordance with Sections 64682 through 64685 shall, within 60 days:

(A) insert notices in each customer's water utility bill containing the information in paragraph (a)(1), along with the following alert on the water bill itself in large print: "SOME HOMES IN THIS COMMUNITY HAVE ELEVATED LEAD LEVELS IN THEIR DRINKING WATER. LEAD CAN POSE A SIGNIFICANT RISK TO YOUR HEALTH. PLEASE READ THE ENCLOSED NOTICE FOR FURTHER INFORMATION."

(B) submit the information in paragraph (a)(1) to the editorial departments of the major daily and weekly newspapers circulated throughout the community.

(C) deliver pamphlets and/or brochures that contain the public education materials in subparagraphs (a)(1)(B) and (D) to facilities and organizations, including the following:

1. Public schools and/or local school boards;
2. City or county health department;
3. Women, Infants, and Children and/or Head Start

Program(s) whenever available;

4. Public and private hospitals and/or clinics;
5. Pediatricians;
6. Family planning clinics; and
7. Local welfare agencies.

(D) Submit the public service announcement in paragraph (a)(2) to at least five of the radio and television stations with the largest audiences that broadcast to the community served by the water system.

(3) A community water system shall repeat the tasks contained in subparagraphs (b)(2)(A), (B) and (C) every 12 months, and the tasks contained in subparagraph (b)(2)(D) every 6 months for as long as the system exceeds the lead action level.

(4) Within 60 days after it exceeds the lead action level, a non-transient non-community water system shall deliver the public education materials contained in subparagraphs (a)(1)(A), (B), and (D) as follows:

(A) Post informational posters on lead in drinking water in a public place or common area in each of the buildings served by the system; and

(B) Distribute informational pamphlets and/or brochures on lead in drinking water to each person served by the system.

(5) A non-transient non-community water system shall repeat the tasks contained in paragraph (b)(4) at least once during each calendar year in which the system exceeds the lead action level.

(6) A water system may discontinue delivery of public education materials if the system does not exceed the lead action level during the most recent six-month monitoring period conducted pursuant to Sections 64682 through 64685. Such a system shall recommence public education in accordance with this section if it subsequently exceeds the lead action level during any monitoring period.

§64681. Supplemental Monitoring.

A water system that exceeds the lead action level on the basis of tap samples collected in accordance with Sections 64682 through 64685 shall offer to sample the tap water of any customer who requests it. The system is not required to pay for collecting or analyzing the sample. The system may fulfill this requirement by arranging for an independent laboratory to collect and analyze the sample.

**ARTICLE 6. MONITORING REQUIREMENTS FOR LEAD AND
COPPER IN TAP WATER**

§64682. Sample Site Location.

(a) By the applicable date for commencement of monitoring under Section 64684(b), each water system shall complete a materials evaluation of its distribution system in order to identify a pool of targeted sampling sites that meets the requirements of this article, and which is sufficiently large to ensure that the water system can collect the number of lead and copper tap samples required in Section 64684(a). All sites from which first draw samples are collected shall be selected from this pool of targeted sampling sites. Sampling sites shall not include faucets that have point-of-use or point-of-entry treatment devices designed to remove inorganic contaminants.

(b) A water system shall use existing information on lead, copper, and galvanized steel construction materials present in their distribution systems when conducting a materials evaluation. When an evaluation of the distribution system construction materials information is insufficient to locate the requisite number of lead and copper sampling sites that meet the targeting criteria in this Section, the water system shall review the sources of information listed below in order to identify a sufficient number of sampling sites. In addition, the system shall seek to collect such information where possible in the course of its normal operations (e.g., checking service line materials when reading water meters or performing maintenance activities):

(1) All plumbing codes, permits, and records in the files of the building department(s) which indicate the plumbing materials that are installed within publicly and privately owned structures connected to the distribution system;

(2) All inspections and records of the distribution system that indicate the material composition of the service connections that connect a structure to the distribution system; and

(3) All existing water quality information, which includes the results of all prior analyses of the system or individual structures connected to the system, indicating locations that may be particularly susceptible to high lead or copper concentrations.

(c) Each community water system shall identify a sampling pool of “tier 1 sampling sites” consisting of single-family structures except that, when multiple-family residences comprise at least 20 percent of the structures served by a water system, the system may include these types of structures in its sampling pool. The sampling sites shall:

- (1) Contain copper pipes with lead solder installed after 1982; or
- (2) Contain lead pipes; or
- (3) Be served by a lead service line.

(d) Each community water system with insufficient tier 1 sampling sites shall complete its sampling pool with “tier 2 sampling sites,” consisting of buildings, including multiple-family residences that:

- (1) Contain copper pipes with lead solder installed after 1982; or
- (2) Contain lead pipes; or
- (3) Are served by a lead service line.

(e) Each community water system with insufficient tier 1 and tier 2 sampling sites shall complete its sampling pool with “tier 3 sampling sites,” consisting of single-family structures that contain copper pipes with lead solder installed before 1983.

(f) Each non-transient non-community water system shall identify a pool of “tier 1 sampling sites” consisting of buildings that:

- (1) Contain copper pipes with lead solder installed after 1982; or
- (2) Contain lead pipes; or
- (3) Are served by a lead service line.

(g) Each non-transient non-community water system with insufficient tier 1 sampling sites that meet the targeting criteria in subsection (f) shall complete its sampling pool with sampling sites that contain copper pipes with lead solder installed before 1983.

(h) Each water system whose sampling pool does not consist exclusively of tier 1 sites shall demonstrate to the Department under Section 64691(a)(2) why a review of the information listed in subsection (b) was inadequate to locate a sufficient number of tier 1 sites. Each community water system which includes tier 3 sampling sites in its sampling pool shall demonstrate why it was unable to locate a sufficient number of tier 1 and tier 2 sampling sites.

(i) Each water system whose distribution system contains lead service lines shall draw 50 percent of the samples it collects during each monitoring period from sites that contain lead pipes, or copper pipes with lead solder, and 50 percent of those samples from sites served by a lead service line. A water system that cannot identify a sufficient number of sampling sites served by a lead service line shall demonstrate to the Department pursuant to Section 64691(a)(4) why the system was unable to locate a sufficient number of such sites. Such a water system shall collect first draw samples from all of the sites identified as being served by lead service lines up to 50 percent of the total number of samples.

§64683. Sample Collection Methods.

(a) All tap samples for lead and copper collected in accordance with this chapter, with the exception of lead service line samples collected under Section 64679(c), shall be first draw samples.

(b) Each first-draw tap sample for lead and copper shall be one liter in volume and have stood motionless in the plumbing system of each sampling site for at least six hours. First draw samples from residential housing shall be collected from the cold-water kitchen tap or bathroom sink tap. First-draw samples from a non-residential building shall be collected at an interior tap from which water is typically drawn for consumption. First draw samples may be collected by the system or the system may allow residents to collect first draw samples after instructing the residents of the sampling procedures specified in this section. If the sample is not acidified immediately after collection, then the sample must stand in the original container for at least 28 hours after acidification. If a system allows residents to perform sampling, the system may not challenge, based on alleged errors in sample collection, the accuracy of sampling results.

(c) Each service line sample shall be one liter in volume and have stood motionless in the lead service line for at least six hours. Lead service line samples shall be collected in one of the following three ways:

(1) At the tap after flushing the volume of water between the tap and the lead service line. The volume of water shall be calculated based on the interior diameter and length of the pipe between the tap and the lead service line;

(2) Tapping directly into the lead service line; or

(3) If the sampling site is a building constructed as a single-family residence, allowing the water to run until there is a significant change in temperature which would be indicative of water that has been standing in the lead service line.

(d) A water system shall collect each first draw tap sample from the same sampling site from which it collected a previous sample. If the water system cannot gain entry to a sampling site in order to collect a follow-up tap sample, the system may collect the follow-up tap sample from another sampling site in its sampling pool as long as the new site meets the same targeting criteria, and is within proximity of the original site.

§64684. Sampling Requirements for Standard and Reduced Monitoring.

(a) Each water system conducting standard monitoring shall collect at least one sample during each monitoring period specified in subsection (b) and Section 64685(a), (b), (c) and (d), based on the number of people served, from at least the number of sites specified in Table 64684 (Standard Monitoring). Each water system conducting reduced monitoring under Section 64685(c) and (d) shall collect at least one sample during each monitoring period specified in Section 64685(c) and (d), based on the number of people served, from at least the number of sites specified in Table 64684 (Reduced Monitoring).

TABLE 64684
Lead and Copper Tap Sampling Sites

<i>System Size (Number People Served)</i>	<i>Number of sites (Standard Monitoring)</i>	<i>Number of sites (Reduced Monitoring)</i>
>100,000	100	50
10,001 to 100,000	60	30
3,301 to 10,000	40	20
501 to 3,300	20	10
101 to 500	10	5
<101	5	5

(b) The first six-month monitoring period for small, medium and large size systems shall begin not later than January 1, 1996.

(1) Each large system shall monitor during two consecutive six-month periods.

(2) Each small and medium-size system shall monitor during each six-month monitoring period until:

(A) The system exceeds the lead or copper action level and is therefore required to implement the corrosion control treatment requirements under Sections 64673 through 64675, in which case the system shall continue monitoring in accordance with Section 64685(a), or

(B) The system does not exceed the lead and copper action levels during two consecutive six-month monitoring periods, in which case the system may reduce monitoring in accordance with Section 64685(c) and (d).

§64685. Monitoring Requirements after Installation of Corrosion Control and Source Water Treatment.

(a) Each water system shall conduct tap sampling after installing optimal corrosion control treatment or source water treatment.

(1) Each large system which installs optimal corrosion control treatment pursuant to Section 64674(a)(7) shall monitor during two consecutive six-month monitoring periods by January 1, 2002.

(2) Each small or medium-size system which installs optimal corrosion control treatment pursuant to Section 64675(a)(6) shall monitor during two consecutive six-month monitoring periods by the date specified in Section 64675(a)(7).

(3) Each system which installs source water treatment pursuant to Section 64677(c) shall monitor during two consecutive six-month monitoring periods by the date specified in Section 64677(d).

(b) The system shall monitor tap sampling during each six-month monitoring period, commencing when the Department specifies the values for water quality control parameters for optimal corrosion control under Section 64676(f).

(c) Generally applicable criteria for reduced monitoring are as follows:

(1) Each water system that maintains the range of values for the water quality control parameters reflecting optimal corrosion control treatment specified by the Department under Section 64676(f) during each of two consecutive six-month monitoring periods may request that the Department allow the system to reduce the frequency of

monitoring to once per year and to reduce the number of lead and copper samples in accordance with Table 64684.

(2) A water system that maintains the range of values for the water quality control parameters reflecting optimal corrosion control treatment specified by the Department under Section 64676(f) during three consecutive years of monitoring may request that the Department allow the system to reduce the frequency of monitoring from annually to once every three years.

(3) When the system submits new monitoring or treatment data, or when other data relevant to the number and frequency of tap sampling becomes available, including changes in water source, water treatment, or distribution system changes, the Department shall review, and where appropriate revise its determination on reduced monitoring frequency. The Department shall make its decision in writing setting forth the basis for its determination.

(4) Each water system that reduces the number and frequency of sampling shall collect these samples from sites included in the pool of targeted sampling sites identified in Section 64682. Systems sampling annually or less frequently shall conduct the lead and copper tap sampling during the months of June, July, August, or September.

(d) Additional options for reduced monitoring for small and medium-size water systems are:

(1) Each system that does not exceed the lead and copper action levels during each of two consecutive six-month monitoring periods may reduce the number of samples in accordance with Table 64684, and reduce the frequency of sampling to once per year.

(2) Each system that does not exceed the lead and copper action levels during three consecutive years of monitoring periods may reduce the frequency of monitoring for lead and copper from annually to once every three years.

(3) Each small or medium-size water system that exceeds the lead or copper action level shall resume sampling in accordance with subsection (b) and collect the number of samples specified for standard monitoring under Table 64684. The system shall also conduct water quality parameter monitoring in accordance with Section 64687 or 64688 during the monitoring period in which it exceeded the action level.

(4) Each water system that reduces the number and frequency of sampling shall collect these samples from sites included in the pool of targeted sampling sites identified in Section 64682. Systems sampling annually or less frequently shall conduct the lead and copper tap sampling during the months of June, July, August, or September.

(e) Each water system subject to reduced monitoring frequency that fails to operate within the range of values for the water quality parameters specified by the Department under Section 64676(f) shall resume tap sampling in accordance with subsection (b) and collect the number of samples specified for standard monitoring in Table 64684.

(f) The result of any monitoring conducted in addition to the minimum requirements of this Section shall be considered in making any determinations under this chapter, including calculating the 90th percentile lead or copper level.

ARTICLE 7. MONITORING REQUIREMENTS FOR WATER QUALITY PARAMETERS

§64686. Water Quality Parameters General Requirements.

(a) Each system that exceeds the lead or copper action level shall monitor water quality parameters.

(b) Each water system monitoring for water quality parameters shall collect samples using the following methods:

(1) Samples collected at the tap shall be representative of water quality throughout the distribution system taking into account the number of persons served, the different sources of water, the different treatment methods employed by the system, and seasonal variability. Samples collected at the tap for water quality parameter monitoring under this article is not restricted to taps targeted for lead and copper sampling.

(2) Samples collected at the entry point(s) to the distribution system shall be from locations representative of each source after treatment. If a system draws water from more than one source and the sources are combined before distribution, the system shall sample at each entry point to the distribution system during periods of normal operating conditions.

(c) Each system shall, based on the number of persons served, collect two samples at the tap for applicable water quality parameters during each monitoring period specified under Sections 64687(a) and 64688(a), (b) and (c) from the number of sites specified in Table 64686.

TABLE 64686
Water Quality Parameter Monitoring Sites

<i>System Size (Number People Served)</i>	<i>Number of sites</i>
>100,000	25
10,001 to 100,000	10
3,301 to 10,000	3
501 to 3,300	2
101 to 500	1
<101	1

(d) Each systems shall collect two samples for each applicable water quality parameter at each entry point to the distribution system during each monitoring period specified in Section 64687(a).

(e) Each system shall collect one sample for each applicable water quality parameter at each entry point to the distribution system during each monitoring period specified in Section 64688.

§64687. Water Quality Parameters Initial Sampling.

(a) Each large water system shall measure the applicable water quality parameters, as specified in subsections (c) and (d), at taps and at each entry point to the distribution system during each six-month monitoring period specified in Section 64684(b).

(b) Each small or medium-size system shall measure the applicable water quality parameters as specified in subsections (c) and (d) during each six-month monitoring period specified in Section 64684(b), only if the system exceeds the lead or copper action level.

(c) At taps the applicable parameters are:

- (1) pH;
- (2) Alkalinity;
- (3) Orthophosphate, when an inhibitor containing a phosphate compound is used;
- (4) Silica, when an inhibitor containing a silicate compound is used;
- (5) Calcium;
- (6) Conductivity; and
- (7) Water temperature.

(d) At each entry point to the distribution system the applicable parameters are those listed in subsection (c).

§64688. Monitoring Requirements for Water Quality Parameters.

(a) Each large system which installs optimal corrosion control treatment pursuant to Section 64674(a)(7) shall measure the water quality parameters at the locations and frequencies specified below during each six-month monitoring period specified in Section 64685(a)(1). Each small or medium-size system which installs optimal corrosion control treatment shall conduct such monitoring during each six-month monitoring period specified in Section 64685(a)(2) in which the system exceeds the lead or copper action level.

(1) At taps, two samples for:

- (A) pH;
- (B) Alkalinity;
- (C) Orthophosphate, when an inhibitor containing a phosphate compound is used;
- (D) Silica, when an inhibitor containing a silicate compound is used;
- (E) Calcium, when calcium carbonate stabilization is used as part of corrosion control.

(2) At each entry point to the distribution system, one sample every two weeks (bi-weekly) for:

- (A) pH;
- (B) When alkalinity is adjusted as part of optimal corrosion control, a reading of the dosage rate of the chemical used to adjust alkalinity, and the alkalinity concentration; and

(C) When a corrosion inhibitor is used as part of optimal corrosion control, a reading of the dosage rate of the inhibitor used, and the concentration of orthophosphate or silica (whichever is applicable).

(b) After the Department specifies the values for applicable water quality control parameters reflecting optimal corrosion control treatment under Section 64676(f), each large system shall measure the applicable water quality parameters in accordance with subsection (a) during each monitoring period specified in subsection 64685(b). Each small or medium-size system shall conduct such monitoring during each monitoring period specified in subsection 64685(b) in which the system exceeds the lead or copper action level. The system may take a confirmation sample for any water quality parameter value no later than 3 days after the first sample. If a confirmation sample is taken, the result shall be averaged with the first sampling result and the average shall be used for any compliance determinations under subsection 64676(g).

(c) A system seeking reduced monitoring for water quality parameters is subject to the following criteria and conditions:

(1) A water system that maintains the range of values for the water quality parameters reflecting optimal corrosion control treatment during each of two consecutive six-month monitoring periods under subsection (b) shall continue monitoring at the entry point(s) to the distribution system as specified in Section 64688(a)(2). Such system may, based on the population served, collect two tap samples for applicable water quality parameters from the following reduced number of sites specified in Table 64688 during each six-month monitoring period.

TABLE 64688

Reduced Water Quality Parameter Sampling

<i>System Size</i> <i>(Number People Served)</i>	<i>Number of sites</i>
>100,000	10
10,001 to 100,000	7
3,301 to 10,000	3
501 to 3,300	2
101 to 500	1
<101	1

(2) A water system that maintains the range of values for the water quality parameters reflecting optimal corrosion control treatment specified by the Department under subsection 64676(f) during three consecutive years of monitoring may reduce the frequency of samples collected at the tap for applicable water quality parameters specified in paragraph (c)(1) from every six months to annually. Any water system that maintains the range of values for the water quality parameters reflecting optimal corrosion control treatment specified in subsection 64676(f) during three consecutive years of annual monitoring under this Section may reduce the frequency of samples collected at the tap for applicable water quality parameters specified in paragraph (c)(1) from annually to every three years.

(3) Each water system that conducts sampling annually shall collect these samples evenly throughout the year so as to reflect seasonal variability.

(4) Each water system subject to reduced monitoring frequency that fails to operate within the range of values for the water quality parameters specified by the Department under Section 64676(f) shall resume collecting samples at the tap in accordance with the number and frequency requirements in subsection (b).

(d) The results of any monitoring conducted in addition to the minimum requirements of this section shall be considered by the system and submitted to the Department for making any determinations (i.e., determining concentrations of water quality parameters) under Sections 64686 through 64688 or Section 64676.

ARTICLE 8. MONITORING REQUIREMENTS FOR LEAD AND COPPER IN SOURCE WATER

§64689. Source Water Sample Location, Collection Methods, and Number of Samples.

(a) A water system that exceeds the lead or copper action level on the basis of tap samples collected in accordance with Article 6 shall collect lead and copper source water samples in accordance with Sections 64690(a) and (b).

(b) If the results of sampling indicate an exceedance of the maximum permissible source water levels established under Section 64678(d), one additional sample may be collected at the same sampling point within 14 days of the initial sample, to confirm the result. If a confirmation sample is taken for lead or copper, then the results of the initial and confirmation sample shall be averaged in determining compliance with the maximum permissible levels.

§64690. Source Water Monitoring Frequency Requirements.

(a) Each system which exceeds the lead or copper action level at the tap shall collect one source water sample from each entry point to the distribution system within six months after the exceedance.

(b) Each system which installs source water treatment pursuant to Section 64677(c) shall collect an additional source water sample from each entry point to the distribution system during two consecutive six-month monitoring periods by the deadline specified in Section 64677(d).

(c) After the Department specifies maximum permissible source water levels or determines that source water treatment is not needed, the following monitoring frequency applies:

(1) In cases where the Department specifies maximum permissible source water levels under Section 64678(d) or determines that the system is not required to install source water treatment under Section 64678(b), the system shall monitor as follows:

(A) If the system uses only groundwater, the system shall collect samples once during the three-year compliance period (as that term is defined in Section

64400.30) in effect when the applicable Department determination under paragraph (c)(1) is made. Such systems shall collect samples once during each subsequent compliance period.

(B) If the system uses surface water, or a combination of surface and groundwater, the system shall collect samples once during each year. The first annual monitoring period for such systems shall begin on the date on which the applicable Department determination is made under paragraph (c)(1) of this section.

(2) A system is not required to conduct source water sampling for lead and/or copper if the system does not exceed the action level for the specific contaminant in tap water samples during the entire source water sampling period applicable to the system under paragraph (c)(1)(A) or (B).

(d) A water system may reduce the frequency of source water monitoring in the following cases:

(1) Each system using only groundwater which demonstrates that the treated drinking water entering the distribution system has been maintained below the maximum permissible lead and/or copper concentrations specified by the Department in Section 64678(d) during at least three consecutive compliance periods under paragraph (c)(1) of this section, may reduce the monitoring frequency for lead and/or copper to once during each nine-year compliance cycle (as that term is defined in Section 64400.20).

(2) Each water system using surface water, or a combination of surface and ground waters, which demonstrates that the treated drinking water entering the distribution system has been maintained below the maximum permissible lead and copper concentrations pursuant to Section 64678(d) for at least three consecutive years, may reduce the monitoring frequency in paragraph (c)(1) of this section to once during each nine-year compliance cycle (as that term is defined in Section 64400.20).

(e) Each water system that uses a new source of water shall not be eligible for reduced monitoring for lead and/or copper until concentrations in samples collected from the new source during three consecutive monitoring periods are below the maximum permissible lead and copper concentrations specified by the Department in Section 64678(d).

ARTICLE 9. REPORTING AND RECORDKEEPING REQUIREMENTS

§64691. Reporting Requirements.

(a) Reporting requirements for tap water monitoring for lead and copper and for water quality parameter monitoring are as follows:

(1) Each water system shall report the information specified below for all tap water samples within the first 10 days following the end of each applicable monitoring period specified in Articles 6, 7, and 8.

(A) The results of all tap samples for lead and copper including the location of each site and the tier criteria from Section 64682 under which the site was selected for the system's sampling pool;

(B) A certification that each first draw sample collected by the water system was one-liter in volume and stood motionless in the service line, or in the interior plumbing of a sampling site, for at least six hours;

(C) Where residents collected samples, a certification that each tap sample collected by the residents was taken after the water system informed them of proper sampling procedures specified in Section 64683(b);

(D) The 90th percentile lead and copper concentrations measured from among all lead and copper tap water samples collected during each monitoring period calculated in accordance with Section 64672.3(c);

(E) With the exception of initial tap sampling conducted pursuant to Section 64684(b), the system shall designate any site which was not sampled during previous monitoring periods, and include an explanation of why sampling sites have changed;

(F) The results of all tap samples for pH and, where applicable, alkalinity, calcium, conductivity, temperature, and orthophosphate or silica collected under Sections 64687 and 64688;

(G) The results of all samples collected at the point(s) to the distribution system entry for applicable water quality parameters under Sections 64687 and 64688.

(2) By January 1, 1997 each community water system which does not complete its targeted sampling pool with tier 1 sampling sites meeting the criteria in Section 64682(c) shall justify to the Department in writing its selection of tier 2 and tier 3 sampling sites under Sections 64682(d) and (e).

(3) By January 1, 1997, each non-transient, non-community water system which does not complete its sampling pool with tier 1 sampling sites meeting the criteria in Section 64682 (f) shall justify to the Department in writing its selection of sampling sites under Section 64682(g).

(4) By January 1, 1997, each water system with lead service lines that is not able to locate the number of sites served by such lines required under Section 64682(i) shall justify to the Department in writing why it was unable to locate a sufficient number of such sites based upon the information listed in Section 64682(b).

(5) Each water system that requests that the Department reduce the number and frequency of sampling shall provide the information required under Section 64685(c).

(b) Reporting requirements for source water monitoring are as follows:

(1) Each water system shall report the sampling results for all source water samples collected in accordance with Article 8 within the first 10 days following the month in which the sample result was received.

(2) With the exception of the first round of source water sampling conducted pursuant to Section 64690(a), the system shall specify any site which was not sampled during previous monitoring periods, and include an explanation of why the sampling point has changed.

(c) By the applicable dates under Sections 64674 and 64675, systems shall report the following information related to corrosion control treatment:

(1) For systems demonstrating that they have already optimized corrosion control, information required in Section 64673(b)(2) or (3).

(2) For systems required to optimize corrosion control, their recommendation regarding optimal corrosion control treatment under Section 64676(a).

(3) For systems required to evaluate the effectiveness of corrosion control treatments under Section 64676(c), the information required therein.

(4) For systems required to install optimal corrosion control designated by the Department under Section 64676(d), a letter certifying that the system has completed installing that treatment.

(d) By the applicable dates in Article 3, systems shall provide the following information to the Department related to source water treatment

(1) If required under Section 64678(a), the system's recommendation regarding source water treatment;

(2) For systems required to install source water treatment under Section 64678(b), a letter certifying that the system has completed installing the treatment designated by the Department within 24 months after the Department designated the treatment.

(e) Systems shall report the following information to the Department to demonstrate compliance with the requirements of Article 4 related to lead service line replacement:

(1) Within 12 months after a system exceeds the lead action level in sampling referred to in Section 64679(a), the system shall demonstrate that it has conducted a materials evaluation, including the evaluation set forth in Section 64682, to identify the initial number of lead service lines in its distribution system, and shall provide the system's schedule for replacing annually at least 7 percent of the initial number of lead service lines in its distribution system.

(2) Within 12 months after a system exceeds the lead action level in sampling referred to in Section 64679(a), and every 12 months thereafter, the system shall demonstrate that the system has either:

(A) Replaced in the previous 12 months at least 7 percent of the initial lead service lines, or a greater number of lines if specified by the Department under Section 64679(f), in its distribution system, or

(B) Conducted sampling which demonstrates that the lead concentration in all service line samples from an individual line(s), taken pursuant to Section 64683(c), is less than or equal to 0.015 mg/L. In such cases, the total number of lines replaced and/or which meet the criteria in Section 64679(c) shall equal at least 7 percent of the initial number of lead lines identified under subsection (a) of this section (or the percentage specified by the Department under Section 64679(f)).

(3) The annual letter submitted to the Department under paragraph (e)(2) of this section shall contain the following information:

(A) The number of lead service lines scheduled to be replaced during the previous year of the system's replacement schedule;

(B) The number and location of each lead service line replaced during the previous year of the system's replacement schedule;

(C) If measured, the water lead concentration and location of each lead service line sampled, the sampling method, and the date of sampling.

(4) As soon as practicable, but in no case later than three months after a system exceeds the lead action level in sampling referred to in Section 64679(a), any system seeking to rebut the presumption that it has control over the entire lead service line pursuant to Section 64679(d) shall submit a letter to the Department describing the legal authority (e.g., statutes, municipal ordinances, public service contracts or other applicable legal authority) which limits the system's control over the service lines and the extent of the system's control.

(f) By December 31st of each year, each water system that is subject to the public education requirements in Article 5 shall submit a letter to the Department demonstrating that the system has delivered the public education materials that meet the content requirements in Section 64680(a) and (b) and the delivery requirements in subsection 64680(b). This information shall include a list of all the newspapers, radio stations, television stations, facilities and organizations to which the system delivered public education materials during the previous year. The water system shall submit the letter required by this paragraph annually for as long as it exceeds the lead action level.

(g) Each system which collects sampling data related to optimized corrosion control in addition to the minimum required by this chapter shall report the additional sampling results to the Department within 10 days after the end of the applicable monitoring period under Articles 6, 7, and 8 during which the samples are collected.

§64692. Recordkeeping Requirements.

Any system subject to the requirements of this chapter shall retain on its premises original records of all sampling data and analyses, reports, surveys, letters, evaluations, schedules, Department determinations, and any other information required by this chapter. Each water system shall retain the records required by this section for no fewer than 12 years or two compliance cycles (as defined in Section 64400.20), whichever is longer.

CHAPTER 18. DRINKING WATER ADDITIVES

ARTICLE 1. REQUIREMENTS

§64700. Direct Additives.

(a) No chemical or product shall be added to drinking water by a water supplier as part of the treatment process after January 1, 1994 unless the chemical or product has been tested and certified as meeting the specifications of American National Standard Institute/National Sanitation Foundation Standard 60, ANSI/NSF 60, as amended October, 1988 (Drinking Water Treatment Chemicals--Health Effects). This requirement shall be met under testing conducted by a product certification organization accredited for this purpose by the American National Standards Institute.

(b) Any contract for the purchase of chemicals or products which was signed by a public water system and which was effective prior to January 1, 1994 shall be exempt from the provisions of subsection (a) until January 1, 1995.

§64710. Exception.

A water supplier may use a chemical, material or product that has not been certified pursuant to Section 64700 or Section 64705 if the chemical, material or product is in the process of being tested and certified and there are no certified alternatives. Prior to use of an uncertified chemical, material or product, the water supplier shall provide the Department with an explanation of the need for the chemical, material or product; the date that the chemical, material or product was submitted for testing; the name of the accredited product certification organization conducting the testing; and a statement that certified alternatives are not available.

ADDENDUM 1

CFR on Trihalomethanes

40 CFR**§141.12 Maximum contaminant levels for organic chemicals**

The following are the maximum contaminant levels for organic chemicals. The maximum contaminant levels for organic chemicals in paragraph (a) of this section apply to all community water systems. Compliance with the maximum contaminant level in paragraph (a) of this section is calculated pursuant to Section 141.24. The maximum contaminant level for total trihalomethanes in paragraph (c) of this section applies only to community water systems which serve a population of 10,000 or more individuals and which add a disinfectant (oxidant) to the water in any part of the drinking water treatment process. Compliance with the maximum contaminant level for total trihalomethanes is calculated pursuant to Section 141.30.

Level, milligrams per liter

(a) [Reserved]

(b) [Reserved]

(c) Total trihalomethanes

0.10

(the sum of the concentrations of
bromodichloromethane, dibromochloromethane,
tribromomethane (bromoform) and trichloromethane
(chloroform))

§141.30 Total trihalomethanes sampling, analytical and other requirements

(a) Community water system which serve a population of 10,000 or more individuals and which add a disinfectant (oxidant) to the water in any part of the drinking water treatment process shall analyze for total trihalomethanes in accordance with this section. For systems serving 75,000 or more individuals, sampling and analyses shall begin not later than 1 year after the date of promulgation of this regulation. For systems serving 10,000 to 74,999 individuals, sampling and analyses shall begin not later than 3 years after the date of promulgation of this regulation. For the purpose of this section, the minimum number of samples required to be taken by the system shall be based on the number of treatment plants used by the system, except that multiple wells drawing raw water from a single aquifer may, with the State approval, be considered one treatment plant for determining the minimum number of samples. All samples taken within an established frequency shall be collected within a 24-hour period.

(b)

(1) For all community water systems utilizing surface water sources in whole or in part, and for all community water systems utilizing only ground water sources that have not been determined by the State to qualify for the monitoring requirements of paragraph (c) of this section, analyses for total trihalomethanes shall be performed at quarterly intervals on at least four water samples for each treatment plant used by the system. At least 25 percent of the samples shall be taken at locations within the distribution system reflecting the maximum residence time of the water in the system. The remaining 75 percent shall be taken at representative locations in the distribution system, taking into account number of persons served, different sources of water and

different treatment methods employed. The results of all analyses per quarter shall be arithmetically averaged and reported to the State within 30 days of the system's receipt of such results. Results shall also be reported to EPA until such monitoring requirements have been adopted by the State. All samples collected shall be used in the computation of the average, unless the analytical results are invalidated for technical reasons. Sampling and analyses shall be conducted in accordance with the methods listed in paragraph (e) of this section.

(2) Upon the written request of a community water system, the monitoring frequency required by paragraph (b)(1) of this section may be reduced by the State to a minimum of one sample analyzed for TTHMs per quarter taken at a point in the distribution system reflecting the maximum residence time of the water in the system, upon a written determination by the State that the data from at least 1 year of monitoring in accordance with paragraph (b)(1) of this section and local conditions demonstrate that total trihalomethane concentrations will be consistently below the maximum contaminant level.

(3) If at any time during which the reduced monitoring frequency prescribed under this paragraph applies, the results from any analysis exceed 0.10 mg/l of TTHMs and such results are confirmed by at least one check sample taken promptly after such results are received, or if the system makes any significant change to its source of water or treatment program, the system shall immediately begin monitoring in accordance with the requirements of paragraph (b)(1) of this section, which monitoring shall continue for at least 1 year before the frequency may be reduced again. At the option of the State, a system's monitoring frequency may and should be increased above the minimum in those cases where it is necessary to detect variations of TTHM levels within the distribution system.

(c)

(1) Upon written request to the State, a community water system utilizing only ground water sources may seek to have the monitoring frequency required by paragraph (b)(1) of this section reduced to a minimum of one sample for maximum TTHM potential per year for each treatment plant used by the system taken at a point in the distribution system reflecting maximum residence time of the water in the system. The system shall submit the results of at least one sample for maximum TTHM potential using the procedure specified in paragraph (g) of this section. A sample must be analyzed from each treatment plant used by the system and be taken at a point in the distribution system reflecting the maximum residence time of the water in the system. The system's monitoring frequency may only be reduced upon a written determination by the State that, based upon the data submitted by the system, the system has a maximum TTHM potential of less than 0.10 mg/l and that, based upon an assessment of the local conditions of the system, the system is not likely to approach or exceed the maximum contaminant level for total TTHMs. The results of all analyses shall be reported to the State within 30 days of the system's receipt of such results. Results shall also be reported to EPA until such monitoring requirements have been adopted by the State. All samples collected shall be used for determining whether the system must comply with the monitoring requirements of paragraph (b) of this section, unless the analytical results are invalidated

for technical reasons. Sampling and analyses shall be conducted in accordance with the methods listed in paragraph (e) of this section.

(2) If at any time during which the reduced monitoring frequency prescribed under paragraph (c)(1) of this section applies, the results from any analysis taken by the system for maximum TTHM potential are equal to or greater than 0.10 mg/l, and such results are confirmed by at least one check sample taken promptly after such results are received, the system shall immediately begin monitoring in accordance with the requirements of paragraph (b) of this section and such monitoring shall continue for at least one year before the frequency may be reduced again. In the event of any significant change to the system's raw water or treatment program, the system shall immediately analyze an additional sample for maximum TTHM potential taken at a point in the distribution system reflecting maximum residence time of the water in the system for the purpose of determining whether the system must comply with the monitoring requirements of paragraph (b) of this section. At the option of the State, monitoring frequencies may and should be increased above the minimum in those cases where this is necessary to detect variation of TTHM levels within the distribution system.

(d) Compliance with Section 141.12(c) shall be determined based on a running annual average of quarterly samples collected by the system as prescribed in paragraph (b)(1) or (2) of this section. If the average of samples covering any 12 month period exceeds the Maximum Contaminant Level, the supplier of water shall report to the State pursuant to Section 141.31 and notify the public pursuant to Section 141.32. Monitoring after public notification shall be at a frequency designated by the State and shall continue until a monitoring schedule as a condition to a variance, exemption or enforcement action shall become effective.

(e) Sampling and analyses made pursuant to this section shall be conducted by one of the total trihalomethane methods as directed in Section 141.24(e), and the Technical Notes on Drinking Water Methods, EPA? 600/R? 94? 173, October 1994, which is available from NTIS, PB? 104766. Samples for TTHM shall be dechlorinated upon collection to prevent further production of trihalomethanes, according to the procedures described in the methods, except acidification is not required if only THMs or TTHMs are to be determined. Samples for maximum TTHM potential should not be dechlorinated or acidified, and should be held for seven days at 25C (or above) prior to analysis.

(f) Before a community water system makes any significant modifications to its existing treatment process for the purposes of achieving compliance with Section 141.12(c), such system must submit and obtain State approval of a detailed plan setting forth its proposed modification and those safeguards that it will implement to ensure that the bacteriological quality of the drinking water served by such system will not be adversely affected by such modification. Each system shall comply with the provisions set forth in the State-approved plan. At a minimum, a State approved plan shall require the system modifying its disinfection practice to:

(1) Evaluate the water system for sanitary defects and evaluate the source water for biological quality;

(2) Evaluate its existing treatment practices and consider improvements that will minimize disinfectant demand and optimize finished water quality throughout the distribution system;

(3) Provide baseline water quality survey data of the distribution system. Such data should include the results from monitoring for coliform and fecal coliform bacteria, fecal streptococci, standard plate counts at 35[degrees] C and 20[degrees] C, phosphate, ammonia nitrogen and total organic carbon. Virus studies should be required where source waters are heavily contaminated with sewage effluent;

(4) Conduct additional monitoring to assure continued maintenance of optimal biological quality in finished water, for example, when chloramines are introduced as disinfectants or when pre-chlorination is being discontinued. Additional monitoring should also be required by the State for chlorate, chlorite and chlorine dioxide when chlorine dioxide is used. Standard plate count analyses should also be required by the State as appropriate before and after any modifications;

(5) Consider inclusion in the plan of provisions to maintain an active disinfectant residual throughout the distribution system at all times during and after the modification.

(g) The water sample for determination of maximum total trihalomethane potential is taken from a point in the distribution system that reflects maximum residence time. Procedures for sample collection and handling are given in the methods. No reducing agent is added to "quench" the chemical reaction producing THMs at the time of sample collection. The intent is to permit the level of THM precursors to be depleted and the concentration of THMs to be maximized for the supply being tested. Four experimental parameters affecting maximum THM production are pH, temperature, reaction time and the presence of a disinfectant residual. These parameters are dealt with as follows: Measure the disinfectant residual at the selected sampling point. Proceed only if a measurable disinfectant residual is present. Collect triplicate 40 ml water samples at the pH prevailing at the time of sampling, and prepare a method blank according to the methods. Seal and store these samples together for seven days at 25 [degrees]C or above. After this time period, open one of the sample containers and check for disinfectant residual. Absence of a disinfectant residual invalidates the sample for further analysis. Once a disinfectant residual has been demonstrated, open another of the sealed samples and determine total THM concentration using an approved analytical method.

